C.B.C. PROGRAMS 1975-1976

[93-41/2 (Watson)-Student Records]

THE GEORGE BROWN COLLEGE
of Applied Arts and Technology

1975-76 Calendar - Amendment

Please insert the following on Page XI of the General Information section of the 1975-76 edition of the College Calendar in place of the text now appearing under the heading "GRADING".

The following system of grading is used to indicate the quality of a student's work:-

Grade	Meaning	Point Value
A	Outstanding	4
B	Better than satisfactory	3
C	Satisfactory	2
D	Less than satisfactory	1
F	Failed	0
K	Incomplete	-
X	Exempted	-

A course in which a student has failed must be repeated if credit is desired. The grade of K is given when a student has not completed course requirements under circumstances in which a grade of F would be inappropriate. The grade of X is given when a student has completed course requirements by means other than his current program.

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The George Brown College of Applied Arts and Technology

75|76

The city is our campus

The George Brown College of Applied Arts and Technology

P.O. Box 1015, Station B, Toronto, Ontario, M5T 2T9 (416) 967-1212

PROGRAMS 1975 - 1976

The content of this publication is intended to serve as a guide only. The George Brown College of Applied Arts and Technology reserves the right to delete or alter the contents of this publication in any way and without notice.

This College was established and is funded by the Province of Ontario through the Ministry of Colleges and Universities.

The George Brown College of Applied Arts and Technology, P. O. Box 1015, Station B, Toronto, Ontario, M5T 2T9, Canada. Telephone (416) 967-1212.

CALENDAR OF EVENTS

1975

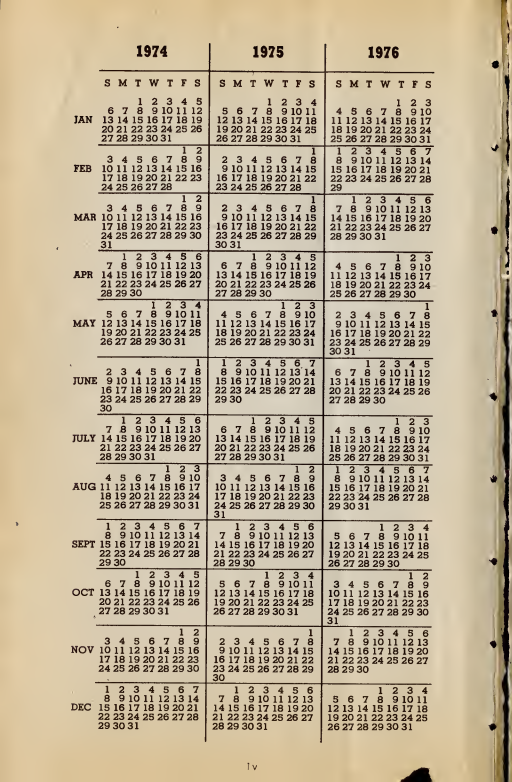
January	2	College Re-opens
January	3	Fees Due for Winter Semester
January	6-10	Final Registration Week - Part-Time Courses
January	6	Registration - Apprentice Programs
January	8	Night Classes Commence - Part-Time Programs (new and continuing)
March	3	Registration - Apprentice Programs
March	5	Tree Planting - Casa Loma
March	28	Good Friday - College Closed
March	31	Easter Monday - College Closed
April	1-5	Final Registration Week - Part-Time Courses
April	28	Registration - Apprentice Programs
April	30	Early Release for Approved Work Experience
May	19	Victoria Day - College Closed
May	22	Awards Night
June	2	Beginning of Registration for Summer Courses
June	13	Completion of Regular Post-Secondary Year *Final Promotion Lists to Registrar
June	20	Completion of Apprentice Programs
July	1	Canada Day - College Closed
July	2	Summer Courses Start
August	1	Completion of Two-Year Technologist Programs *Final Promotion Lists to Registrar
August	5	Civic Holiday - College Closed
August	29	Summer Courses Terminate
September	1	Labour Day - College Closed
September	2	Registration - Apprenticeship and Short Programs
September	3-5	Registration - Post-Secondary
September	8	Post-Secondary Classes Commence
September	15	Final Registration Week - Part-Time Courses
September	29	First Night of Classes - Part-Time Courses
October	13	Thanksgiving Day - College Closed
October	25	Convocation
October	27	Registration - Apprentice Programs
December	19	Last Day of 1st Semester - 1975
December	24	Last Day of 1975 - Manpower Students
December 25 to January 1		Christmas Day)) College Closed New Year's Day)

1976

January	5	First Day of Classes - Post-Secondary, Manpower Fees Due for Winter Semester Registration - Apprenticeship Programs
January	6	Final Registration Week - Part-Time Courses
January	8	Night Classes Commence - Part-Time Courses (new and continuing)
March	1	Registration - Apprenticeship Programs
April	5	First Registration Night - Part-Time Courses
April	16	Good Friday - College Closed
April	19	Easter Monday - College Closed
April	26	Registration - Apprenticeship Programs
April	30	Early Release for Approved Work Experience
May	21	Awards Night

1976

May	24	Victoria Day - College Closed
June	18	Completion of Regular Post-Secondary Year *Final Promotion Lists to Registrar
June	3	Beginning of Registration - Part-Time Summer Courses
June	18	Completion Date of Apprenticeship Programs
July	1	Canada Day - College Closed
July	5	"Summer In the City" Courses Start
August	2	Completion of Two-Year Technologist Programs *Final Promotion Lists to Registrar



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GENERAL INFORMATION

THE COLLEGE

On March 1, 1968, the George Brown College of Applied Arts and Technology was officially named; it comprised the former Provincial Institute of Trades and the former Provincial Institute of Trades and Occupations. It is fitting that the College, whose programs for the first time offer the post-secondary student an exciting and universally accessible alternative to a university education, should receive its name from George Brown, the Reformer, whose continuing fight was against the social prejudice of the time and an established elite, bent on withholding from the common man his rightful freedom to shape his own destiny, both political and personal. It is appropriate also that, 124 years to the day after the founding of that mighty organ of free speech, the Globe, this College should derive its name from the man whose very voice and footsteps must have been well-known to the sod on which our downtown campus stands!

THE CAMPUS

In December, 1969, the Board of Governors of the George Brown College adopted a master plan; this plan was based on the concept of a multi-campus college, with programs integrated to satisfy the needs of the community.

At present the College operates nine campuses, five of which are nursing campuses, located within the City of Toronto. A new complex of buildings has just been completed at the Casa Loma site. It is expected that, within two or three years, the entire College operation will be settled in eight areas: the Casa Loma Campus, the Kensington Campus, a downtown campus, and five nursing campuses.

PROGRAMS OF STUDY

The George Brown College offers almost 200 programs leading to vocational competence, official certification, academic upgrading, and general enrichment. While it is acknowledged that certain standards of proficiency in particular areas of study are necessary for employment, it is also recognized that each student brings to the College certain established abilities, and that individual needs vary widely. This Calendar describes programs and component courses of study which lead to particular vocations; most students are likely to undertake one of these prescribed programs; yet some may choose to take advantage of the high degree of flexibility provided and arrange one of the following variations:

1. Take an enriched program by adding to it another course.
2. Take a light program by omitting one or two courses.
3. Substitute courses for those within a program for which exemption or credit has been granted.
4. Take one or two courses at a time, with a view to building program credit and certification; part-time courses are the most popular way of doing this and a calendar is available from the College on request.

A diploma is issued on satisfactory completion of a post-secondary program of 4 semesters or more in length: a certificate is issued for programs less than 4 semesters in length.

In order to meet the changing needs of the community, new programs are constantly being developed and current courses revised and updated. As is the case in all post-secondary institutions, all programs are subject to change without notice and will be given only if there is sufficient enrolment. The College also reserves the right to suspend or cancel any course or program, when enrolment is insufficient or employment opportunities appear inadequate.

ADMISSION PROCEDURES

Secondary school students intending to enter the George Brown College are advised to consult, during the fall term, with a guidance counsellor, who will supply information and application forms.

The general public may obtain information and application forms by writing to the George Brown College, P. O. Box 1015, Station B, Toronto, Ontario, M5T 2T9, or by telephoning (416) 967-1212 and asking for 'information'.

Application forms must be accompanied by ONE of the following documents:

1. An official transcript of all secondary school marks, showing the necessary credits and grades for admission to the desired program.

OR

2. A statement from the secondary school principal stating that the applicant is expected to obtain the necessary credits and grades for admission to the desired program; this statement must be confirmed by an official transcript of marks, when it becomes available.

Applicants frequently write to obtain additional information, but neglect to mention the name of the program applied for; to ensure a prompt reply, an applicant should state the name of the program each time he communicates.

Applications are assessed by a Board of Admissions, who are empowered to accept, defer, or reject any candidate's application for admission to any program, or to recommend an alternate program for any candidate whose qualifications, in the opinion of the Board, are not adequate to satisfy the demands of the program which the candidate wishes to pursue.

Academic Upgrading

Canadian students who are otherwise acceptable for a program, except that they do not have standing in all of the required academic subjects, may apply at the George Brown College for college preparatory courses in the subjects they are lacking; these preparatory courses are available throughout the entire year and further information may be obtained by telephoning the information service of the College. This service is not available to overseas students.

Probationary Status

Students whose applications have been accepted but whose qualifications fall somewhat short of the published prerequisites for a program, as well as students who have been re-admitted after a failure (a grade point average of less than 2.0) are placed on probationary status. A probationary student's position will be re-assessed by the end of the first semester. For more detailed information, apply to the campus admissions office.

Transfer Credits

Students who wish to have courses successfully completed at other institutions credited to their program at the George Brown College must apply in writing to the campus admissions office by the end of the first week of their program; such work will be evaluated and credited to their program, when applicable.

ADMISSION REQUIREMENTS

1. Programs of Two Years or Longer

The Ontario Secondary School Graduation Diploma is the minimum admission requirement. Applicants from other provinces and other countries must submit evidence of equivalent standing. Certain programs require a personal interview, demonstration of special talents, or proof of acceptable standing in specific subjects.

2. Programs of One Year or Less

(a) As stated in the program description.

(b) Many of the programs in this category are available under the provisions of the Ontario Manpower Retraining Program, a government-subsidized educational program for adults; such programs are designated by the GBC code in the 500 series. Application for programs under the provisions of the Ontario Manpower Retraining Program must be made through the Canada Manpower Centre closest to the applicant's home address.

3. Admission as a Mature Student

Canadian applicants 19 years of age or older, who do not have the stated admission qualifications but who appear to possess the capacity and maturity to succeed, may be accepted in an appropriate program as probationary students. Overseas students cannot apply as mature students.

4. Admission with Advanced Standing

The College may grant advanced standing for college-level study completed at other accredited institutions. Applicants' requests for advanced standing must be supported by official transcripts from the institution where the standing was obtained and should be submitted simultaneously with the application for admission to the George Brown College.

5. Priority of Admissions

Applicants will be admitted in the following order of preference:

1. Permanent residents of Ontario.
2. Permanent residents of other Canadian provinces.
3. Overseas students from Commonwealth countries.
4. Students from foreign countries.

6. Applicants from Foreign Countries

Applicants other than Canadian citizens and landed immigrants are not eligible for apprenticeship programs and are not eligible for Ontario Manpower Retraining Programs.

Students from foreign countries are eligible to apply for any post-secondary program offered by the College, although pre-selection interviews and other factors may preclude consideration of non-resident applicants for certain programs. If the foreign applicant's mother tongue is not English, then proof of proficiency in English must be presented by submitting the results from the Test of English as a Foreign Language. After the student has received a letter of acceptance from the George Brown College, he must obtain a student visa; this may be accomplished by obtaining a student application for temporary admission to Canada from the Canadian embassy or consulate in the applicant's country, or by writing to the Department of Manpower and Immigration, Immigration Division, Ottawa, Canada, K1A 0J9.

In addition to good character, good health, and proof of acceptance into the George Brown College, immigration authorities must be provided with evidence of sufficient funds to pay living and school expenses for at least one year. The George Brown College cannot assume financial responsibility for students whose funds prove inadequate. Student visa holders should not count on part-time or summer employment in Canada to pay for school expenses. Immigration regulations stipulate that students in Canada with only temporary status cannot accept employment without written permission from their immigration officer.

7. Identification Cards

Identification cards, which may be used as proof of enrolment in the George Brown College, are issued to students at the time of registration.

8. Mutual Responsibility Agreement

The acceptance of a student at the George Brown College of Applied Arts and Technology constitutes an agreement of mutual responsibility. The student's part of the agreement is to accept established College rules and practices, to respect the laws of the City and the Province, and to act in a responsible manner appropriate to these rules, practices, and laws. The College's part is to provide an environment that encourages student growth and development. The College recognizes that most students accept and fulfil their part of the agreement. When a student is persistently irresponsible, however, disciplinary action must be taken on the part of the College.

FEES

POST-SECONDARY PROGRAMS

The normal academic year consists of two semesters. The fee schedule for all programs is as follows:

First semester	Confirmation	$ 35
	Balance of tuition	100
	Student Activity Fee	20
Total of first semester fee		$ 155
Second semester	Tuition	$ 125
	Student Activity Fee	15
Total for academic year		$ 295

The first semester confirmation fee of $ 35, which includes a $ 10 registration fee, must be paid within 14 days of notice of acceptance; it guarantees the student a place in the program and is not refundable. The balance of the first semester tuition fee must be paid in full before the student is permitted to register or to enter classes.

The second semester fee must be paid in full before the end of the first semester.

Applicants from countries other than Canada are required to pay the total fees for the complete academic year two months in advance of the program's registration date; these fees, which include a $ 35 non-refundable confirmation fee, amount to $ 295 (e.g., fees must be paid by July 1st for September 1st registration).

All fees must be paid in cash, by money order or by cheque made payable to the George Brown College.

There will be no refunds after the tenth day of scheduled classes.

This fee schedule is subject to revision without notice.

Fees for programs of less than one normal academic year are calculated on a pro rata basis; information about fees for such programs may be obtained from the admissions office.

ADDITIONAL EXPENDITURES

The cost of textbooks, instruments and supplies is additional to the tuition fee and varies, according to the program, from $ 40 to $ 100. Students are urged to use the facilities of the campus bookstore where items are sold on a non-profit basis.

Students who wish to keep projects constructed in the College must pay for the materials.

ONTARIO MANPOWER RETRAINING PROGRAMS

Eligible persons may apply for enrolment in programs designated by the GBC code in the 500 series, as fee-paying students, on the basis of $ 5 per week. These fees are payable one month in advance , in payments of not less than $ 20; such fees are subject to alteration, in keeping with change in government policy.

These fees are not refundable.

Books and supplies for these programs are on loan at no cost to the student.

EQUIVALENT STANDING

Applicants from another province or country are required to submit evidence of equivalent standing. The following certificates are recognized as being equivalent to the Ontario Secondary School Graduation Diploma and may be accepted if applicants satisfy the other admission requirements:

British Columbia:	Grade 12
New Brunswick:	Grade 12
Alberta:	Grade 12
Saskatchewan:	Grade 12
Manitoba	Grade 12
Quebec:	12 years of scholarity - either 12 years at Quebec schools or 11 years at Quebec schools and the first year of C.E.G.E.P. or Collegial program at university
Nova Scotia:	Grade 12
Prince Edward Island:	Grade 12
Newfoundland:	First year Memorial University

REGISTRATION DATES

The calendar of events at the front of this publication gives the normal dates of registration and class commencement; however, certain programs may have more than one commencement date during the year; for such information, telephone (416) 967-1212. Students may pre-register at any time after receiving their notice of acceptance and are encouraged to do so since it will give them the opportunity to consult with their teaching divisions concerning their programs.

GRADING

The following system of grading is used to indicate the quality of a student's work:

Grade	Meaning	Point Value
A	excellent	4
B	good	3
C	average	2
D	below the average	1
F	failure	0
WP	withdrawn while passing	
WF	withdrawn while failing	
K	incomplete	

A course in which a student has failed must be repeated, if credit is desired. The grade of K is given only in cases of illness or other extenuating circumstances; it permits the student, after consultation with the department head to complete the work within a reasonable period of time.

PROGRAM EVALUATION

The overall achievement of a student in a program is stated as grade point average (GPA). The highest GPA which a student can obtain is 4 and the lowest 0. Grade points for a course are determined by the grade which the student has achieved in the course and the relative weight or content of the course as indicated by the number of hours for which the course is scheduled. The grade points for a course are calculated as the product of the point value of the grade achieved multiplied by the number of hours scheduled.

To obtain the GPA, the total grade points achieved on all courses are divided by the total hours scheduled for the courses.

A minimum GPA of 2.0 with no failures in any course is required to complete a program successfully. On approval of the Dean of a division, honour standing may be awarded to students who obtain a grade of 3.5 or more.

PROMOTION OF STUDENTS WHO HAVE FAILED ONE OR TWO COURSES

1. A student with a grade point average of 2.5 or more may apply to pursue one failed course in the following year.

2. A student with a grade point average of 3.0 or more may apply to repeat two failed courses in the following year.

STUDENT SERVICES

The student services office administers a wide variety of activities directly related to students' well-being; these include a health centre on each campus, athletics and recreation, counselling services, financial assistance, living accommodation, OHIP, placement, and student organizations.

A HEALTH CENTRE is located on each campus, staffed by registered nurses, with a physician available for consultation on an appointment basis. Students are requested to complete a health history form, and medical examinations are required for admission to some programs. .

Services available include health counselling, health education programs, emergency care, supportive care following minor injuries and illness, immunization against tetanus, poliomyelitis and smallpox; and referrals to medical facilities, campus counselling service, or community agencies.

Free chest x-ray facilities are provided by the Toronto Chest Clinic for students who have not had a recent chest x-ray or tuberculin test; forms and detailed information are available at the campus health centre.

ATHLETICS is a program in which every student is eligible to participate. The athletic director operates an intramural program of inter-class competitions involving touch football, floor hockey, basketball, pushball, baseball, etc. The College, as a member of the Ontario Colleges Athletic Association, competes in various inter-college sports, such as basketball and soccer.

The athletic department also organizes a variety of recreational club programs such as the scuba club, the archery club, the table-tennis club, the curling club, the tennis club, the yoga club, etc. Clubs for any athletic activity may be organized by calling a meeting of interested students, electing officers, and submitting a constitution to the athletic director for approval.

All students who participate in intramural or inter-college athletics are reminded of their responsibility to provide their own medical and hospital insurance coverage, under the provisions of the Ontario Health Insurance Plan. The College provides supplementary coverage for specific injuries, under a special insurance policy.

COUNSELLING SERVICES are provided on each campus. Professional counsellors are available at any time during school hours to meet with any student on a voluntary basis. They are competent to provide educational, vocational or personal counselling. Discussions are informal, confidential and supportive of the student. For further information contact the counselling centre at any campus or phone 967-1212.

FINANCIAL ASSISTANCE under the terms of the Ontario Student Awards Program or of the Canada Student Loans Plan may be available for applicants for admission to a post-secondary program, who are Canadian citizens or landed immigrants, having resided in the country for at least 12 consecutive months prior to enrolment. Loans awarded under the Plan are interest-free until six months after graduation or termination of study, and no repayment is required as long as the recipient is enrolled as a full-time student. Further information and application forms for student financial assistance are available at all secondary schools and from the Student Services Office, telephone 967-1212.

LIVING ACCOMMODATION information is available by dialling (416) 967-1212. Although residence accommodation is not provided by the College, there is no shortage of boarding and rooming facilities in Toronto.

ONTARIO HEALTH INSURANCE PLAN (OHIP) coverage is the responsibility of each student; students without such coverage must be prepared to pay all medical and hospital costs arising from illness or injury; such expenses can amount to $ 75 to $ 100 per day. Information and forms are available at the campus health centre. Until students are eligible for the Ontario Health Insurance Plan, they are urged to make arrangements for coverage with private insurance companies.

PLACEMENT in employment is primarily the decision of the student. However, the College recognizes its role in assisting students and alumni to make correct career choices and in bringing graduates and employers together.

A close liaison with business, industry and the community is maintained by the College staff. Students are advised of employers looking for their services and employers are advised of the capabilities of graduates. Presentations and interviews may be arranged on campus or at the employer's location.

The campus libraries contain career information which enables students to familiarize themselves with employer requirements and operations. Publications on resume writing and interview preparation are also provided.

STUDENT ORGANIZATIONS exist on each campus; they are self-governing and provide a variety of services such as the following:

1. The creation of a forum for free discussion and democratic exchange of ideas.
2. The provision of a ready channel for communication to administration of student requests or grievances.
3. The organization of student activities and services.

A college-wide council composed of representatives of each campus meets periodically to deal with matters of an inter-campus nature and to serve as an advisory committee to the college administration.

CAMPUS FACILITIES

A BOOKSTORE is operated on each campus on a non-profit basis to all students. All course requirements of books, stationery, and supplies may be purchased at prices usually well below those at retail stores. Besides these items, the bookstores sell sweaters, jackets, college rings, and a few souvenir articles. All purchases must be made in cash and personal cheques are not accepted.

A CAFETERIA is located on each campus and is open Monday through Friday. Both hot and cold dishes are available from October to May. During the summer months, a more limited service is provided.

A LIBRARY is located on each campus. The aim of the library is to provide a carefully chosen collection of material related to the growing range and complexity of college programs; such materials include a selection of periodicals and reference journals, as well as magazines for browsing. Library hours on each campus are posted in the library area.

Students are invited to use the library facilities at any time during these hours for reference, borrowing, study, or relaxation.

PARKING space is not provided for students by the College. Students are urged to travel by GO train or T. T. C. buses and subway, whenever possible. Transportation on the GO trains is available at reduced rates for students in full-time attendance for more than 12 consecutive weeks; further information may be obtained by telephoning (416) 248-3112 or consulting the campus admissions office. The cost of a one-way T. T. C. ticket, which permits passage anywhere in Metropolitan Toronto, is 25 cents.

THE 2700-HOUR TECHNOLOGY PROGRAM (3 YEARS IN 2)

1. Length of Program: 2700 hours (6 modules of 15 weeks)

2. Admission Requirements: The Ontario Secondary School Diploma with standing above the average in mathematics and science.

3. Module 1 is common to the technician and the technologist programs. Outstanding performance in the first module may qualify technician students to transfer to the technology program for the second module; technology students who do not achieve technologist standing may transfer to the technician program. Note that there are two distinct programs:

   (i) The technician program with one set of admission requirements.
   (ii) The technologist program with a set of higher admission requirements.

4. The 'three years in two' option applies to the following programs: Electrical Technology, Electronics Technology, Instrumentation Technology, and Survey Technology.

5. Upon satisfactory completion of the technologist program, a student will receive the George Brown College Diploma indicating proficiency in the technology concerned.

ACADEMIC UPGRADING

PROGRAM: ACADEMIC UPGRADING (GRADES 1 TO 4) — GBC CODE: AS 540
LOCATION: Terauley Campus — FEE: $6.25 per week
LENGTH: 24 Weeks
CERTIFICATION: Diploma
PREREQUISITE: Ability to speak English

This program is designed for adults who have had little or no previous education and wish to advance their education. Students are accepted on a weekly basis and are assigned to an appropriate grade. Course length is determined by the student's entrance level and rate of progress.

ENG 540	Basic English
MATH 540	Arithmetic

PROGRAM: ACADEMIC UPGRADING (GRADES 5 TO 8) — GBC CODE: AS 541
LOCATION: Terauley Campus — FEE: $6.25 per year
LENGTH: 36 Weeks
CERTIFICATION: Diploma
PREREQUISITE: AS 540 or Grade 4 equivalent

A program for adults whose previous education was limited to Grade 4. Students are accepted on a weekly basis and, after testing, are assigned to an appropriate grade. Course length is determined by a student's entrance level and rate of progress.

ENG 542	Basic English
MATH 542	Arithmetic

PROGRAM: ACADEMIC UPGRADING (GRADES 9 AND 10) — GBC CODE: AS 542
LOCATION: Terauley Campus — FEE: $6.25 per week
LENGTH: 24 Weeks
CERTIFICATION: Diploma
PREREQUISITE: AS 541 or Grade 8 equivalent

A program for adults who require Grade 10 for entrance to commercial or technical programs or to Grade 11 Academic Upgrading. Students are accepted on a weekly basis, tested, and assigned to an appropriate grade.

ENG 546	English
MATH 546	Mathematics
SCI 546	Science

PROGRAM: ACADEMIC UPGRADING (GRADES 11 AND 12) — GBC CODE: AS 543
LOCATION: Terauley Campus — FEE: $6.25 per week
LENGTH: 52 Weeks
CERTIFICATION: Diploma
PREREQUISITE: Grade 10 equivalent or AS 542

This program is designed to prepare persons for entry into Colleges of Applied Arts and Technology programs that require Grade 12 equivalent. Students successfully completing this program may apply to the Ministry of Education for credit towards a Grade 12 equivalency certificate.

ENG 547	Language and Communications
MATH 547	Mathematics
SCI 547	Physics, Chemistry, Biology

NOTE: Course AS 543 begins every month, including the summer months.

PROGRAM: ADDICTION COUNSELLOR — GBC CODE: AP 103
LOCATION: Kensington Campus — FEE: $295 per year
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: This program is generally restricted to older students with volunteer welfare experience, post high school work, or both. A good command of English, both verbal and written, is needed. The Ontario Secondary School Graduation Diploma or its equivalent is a prerequisite, but those with the ability to cope beyond this level and mature men and women with a good life experience are needed for this emotionally demanding work. Stable, energetic people, relatively free from personal problems, who communicate well on a feeling level and who show warmth and empathy, are given the highest preference. Applicants may be drawn from people with widely differing experience; the home, recent school graduation, the ministry, nursing, volunteer work, business, industry, and other fields. This program is offered on alternate years, with the next admissions in September of 1975 and September of 1977.

The process of student selection involves group interviews with both staff and members of the graduating class. While not the determining factor, these interviews are mutually helpful in reaching a decision on admission. Interviews will be conducted from January to May 1975.

All enquiries and requests for interviews should be directed to the Admissions Office, MacPherson, P.O. Box 1015, Station B, Toronto M5T 2T9. When requesting an interview, please include an autobiographical sketch and indicate why you are interested in taking this program.

Addiction counsellors are trained to be counsellors in the mental health field, with special expertise in problems related to drug (including alcohol) dependencies, and to serve a variety of individuals, agencies, and the community.

Semesters I and II (First Year)			Periods per week
AD	100	Field Practice	16
AD	101	Human Growth and Behaviour	2
AD	102	Group Process	2
AD	103	Social Issues, Problems and Services	2.5
AD	104	Physiology and Pharmacology	2
AD	105	Basic Studies in Addiction	2
AD	106	Theory, Methods and Practice of Therapy	3
AD	107	Sociology	2
AD	108	Values, Ethics and Professionalism	2
AD	110	English (Optional)	2
			35.5

Semesters III and IV (Second Year)			Periods per week
AD	200	Field Practice	24
AD	201	Human Growth and Behaviour	2
AD	202	Group Process	2
AD	206	Theory, Methods and Practice of Therapy	3
AD	207	Sociology	2
AD	209	Research and Independent Studies	2
AD	211	Community Practice	2
			37

PROGRAM: CHILD CARE WORKER — GBC CODE: AP 101
LOCATION: Kensington Campus — FEE: $295 per year
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or its equivalent; prefer experience with groups of children; mature personality with broad life experience; personal interview necessary; minimum age of 18 years

Child care workers are men and women trained to work therapeutically with emotionally disturbed children and adolescents in residential treatment settings and community programs. Practical experience is gained through field work when students are under the direction of skilled supervisors who advise and guide them.

Child care workers find employment in provincial institutions, treatment centres, private social agencies, group homes, and hospitals.

Semesters I and II			Periods per week
CHI	160	Field Practice	24
CHI	161	Human Growth and Development	1.5
CHI	162	Health and First Aid	54 hours total for semester
CHI	164	Caring for the Disturbed Child	1.5
CHI	165	Creative Activities with Children	2
CHI	166	Social Services (half year)	1
CHI	167	Student Group Seminar	1
CHI	169	Introductory Psychology (half year)	2
CHI	171	Introductory Sociology (half year)	2
CHI	172	Group Process I	2
CHI	174	Empathy Training	.75
			37.75

Semesters III and IV			Periods per week
CHI	260	Field Practice	24
CHI	261	Psychopathology of Childhood	1.5
CHI	262	Caring for the Disturbed Adolescent	2
CHI	265	Activities with Children (Water Safety)	20 hours total for semester
CHI	267	Student Group Seminar	1
CHI	268	Treatment Philosophies	2
CHI	269	Professional Development (half year)	1.5
CHI	271	Therapeutic Programming (half year)	1.5
CHI	270	Group Process II	2
CHI	272	Working with Families (half year)	2
CHI	275	Adolescence (half year)	.75
			38.25

PROGRAM: COMMUNITY WORKER
LOCATION: Kensington Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or its equivalent, or mature student
It is essential for students to have had extensive life experience, to believe in the involvement of people in the decision making process, to demonstrate a commitment to social change, and to possess personal maturity. Previous community work experience would be an advantage.

GBC CODE: AP 107
FEE: $295 per year

Graduates of this program will be able to fill community work jobs now being created in most traditional public and private agencies, or will be able to work directly with community groups more effeciently. There is also the possibility of graduates creating their own jobs.

Semesters I and II (First Year)		Periods per week
CW 100	Field Work	15
CW 101	Field Work Seminar	2
CW 102	Community Services and Resources	2
CW 103	Community Health (half year)	1.5
CW 104	Community Practices and Methods	2
CW 105	Group Process I	2
CW 106	Community Development	4
CW 107	Human Growth and Development	2
CW 108	Comparative Sociology	2
		31.5

Semesters III and IV (Second Year)		Periods per week
CW 200	Field Work	20
CW 201	Field Work Seminar	2
CW 202	Business and Administration	2
CW 203	Canadian Society and Social Change	2
CW 204	Communications and Understanding Media (half year)	1
CW 205	Group Process II	2
CW 206	Independent Study Seminar	1
CW 207	Political Science (half year)	1
CW 208	Surveying and Interviewing	2
		33

This program is designed to assist those who need to increase or further skills in working with people in a community development setting.

PROGRAM: DAY CARE WORKER
LOCATION: Kensington Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or its equivalent; prefer experience with infants and very young children; mature personality with broad life experience; personal interview necessary

GBC CODE: AP 105
FEE: $295 per year

The increasing provision of day care facilities for infants by Metro Toronto social services and by independent provincially accredited organizations indicates that employment prospects are excellent. It should be noted that this program has been designed for individuals who have a very special interest in the provision of quality-oriented and family-oriented day care services.

This program qualifies graduates to assist in setting up, supervising or working in day care centres. Graduates are eligible to apply for certification by the Association for Early Childhood Education, Ontario.

Each semester is divided into two blocks of eight weeks. One eight week block is for academic studies, the other for field placements.

Semesters I and II (First Year)		Periods per week
DCW 100	Infant and Child Development	4
DCW 101	The Infant's Physical Health, Well Being and First Aid	2
DCW 102	Introductory Psychology	2
DCW 103	Mental Health	2
DCW 104	Principles of Day Care	4
DCW 105	Creative Expression in Childhood	5
DCW 109	Nutrition and Food Management	4
DCW 110	Special Studies - Communications	3
DCW 208	Group Process	2
		30
DCW 111	Tutorials	3
DCW 112	Field Practice	27
		30

Semesters III and IV (Second Year)		Periods per week
DCW 200	Human Growth and Development	4
DCW 201	Children with Special Needs	3
DCW 202	Cognitive Development	4
DCW 204	Varieties of Day Care	1
DCW 205	Planning, Management and Legislation	5
DCW 206	Family Dynamics	4
DCW 207	Parent Interviewing and Counselling	4
DCW 106	Introductory Sociology	2
DCW 107	Community Services	1
DCW 108	Professional Development	2
		30
DCW 210	Tutorials	3
DCW 211	Field Practice	27
		30

PROGRAM: DENTAL ASSISTANT
LOCATION: Casa Loma Campus
LENGTH: 1 Year
CERTIFICATION: Certificate
PREREQUISITE: Ontario Secondary School Graduation Diploma, but must include English, Mathematics, and at least one science; proof of typewriting proficiency of 30 wpm; personal interview; successful completion of a manual dexterity test

GBC CODE: AP 141
FEE: $295 per year

The graduate of this program will have received a background in the dental sciences, operating room assistance, dental materials, limited dental laboratory methods, dental x-ray techniques, as well as business procedures that will allow effective functioning as a member of the dental team.

Semester I		Periods per week
DENT 109	Dental Radiography	1
DENT 104	Basic Health Science	3
DENT 102	Dental Anatomy	1
DENT 105	Dental Laboratory	2
DENT 106	Dental Materials	2
DENT 107	Dental Assisting	8
DENT 108	Professional Development	1
OP 114	Office Practice - Typing	5
ENG 110	Business English and Correspondence	2
DENT 111	Clinical Practice	2
SOC 100	Sociology	2
		30

Semester II		Periods per week
DENT 107	Dental Assisting	6
DENT 109	Dental Radiography	2
DENT 105	Dental Laboratory	3
OP 114	Office Practice and Bookkeeping	5
DENT 111	Clinical Practice	5
DENT 106	Dental Materials	2
DENT 110	Professional Development	1
ENG 110	Language and Communications	2
DENT 104	Basic Health Science	2
SOC 100	Sociology	2
		30

PROGRAM: DENTAL TECHNICIAN
LOCATION: Casa Loma Campus
LENGTH: 3 Years
CERTIFICATION: Diploma
PREREQUISITE: Minimum of Ontario Secondary School Graduation Diploma, but must include Chemistry and Physics; candidates must successfully complete a manual dexterity test

GBC CODE: AP 102
FEE: $295 per year

The dental technician may be employed by one dentist or he may operate a laboratory alone; he may be the owner of a laboratory employing several technicians or he may be an employee in a laboratory owned by an individual or a firm.

With the guidance and advice of a committee representing both the Royal College of Dental Surgeons of Ontario and the Governing Board of Dental Technicians, a 3 year program of studies is provided. This will include the theory and practice of all aspects of dental laboratory work and a related subject program designed to give insight into the problems of small business management. Arrangements are also made for the student to participate in field work at the Faculty of Dentistry and in commercial laboratories.

First Year		Periods per week
DENT 100	Dental Laboratory and Lecture I	19
DENT 101	Dental Materials (Manipulation)	1
DENT 102	Dental Anatomy	1
ENG 100	Language and Communications	2
EC 100	Economics - Basic	1
CHEM 107	Chemistry and Science of Dental Materials	2
MATH 107	Business Mathematics	2
BIOL 107	Human Biology	2
		30

Second Year		Periods per week
DENT 200	Dental Laboratory and Lecture II	20
ENG 200	English	2
MET 200	Metallurgy	2
EC 132	Small Business Management	2
CHEM 207	Chemistry of Dental Materials	2
SOC 100	Social Psychology	2
PSY 100		2
		30

Third Year		Periods per week
DENT 300	Dental Laboratory and Lecture III	25

In addition, students will participate in field work a) in commercial laboratories in Ontario, or

b) at the Faculty of Dentistry, University of Toronto

APPLIED ARTS

PROGRAM: DENTURE THERAPY — GBC CODE: AP 106
LOCATION: Casa Loma Campus — FEE: $295 per year
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Minimum of Ontario Secondary School Graduation Diploma or its equivalent, but must include Chemistry and Physics; credits in Biology an asset; candidates should have or develop a high degree of manual skill and a good command of the English language

The denture therapist is the new auxiliary of the dental team responsible for the fabrication of all removable prosthetic appliances. This includes taking impressions of all kinds, bite registration, fitting, finishing, and post-insertion adjustments of oral prosthetic appliances. Students in the therapy course will be required to complete the first year in the dental technician program. The second year will be devoted to denture therapy intra-oral, clinical, and laboratory work.

As an integral part of the dental team, the denture therapist must prove to be competent in his specific area and be very aware of responsibilities to the profession, both during and at the conclusion of training. The quality and method of work, and character and conduct of the therapist should be on a par with that demonstrated by the other members of the dental team.

Semesters I and II		Periods per week
CHEM 107	Chemistry	2
DENT 100	Dental Laboratory and Lectures I	19
DENT 101	Dental Materials	1
DENT 102	Dental Anatomy	1
DENT 103	Science of Dental Materials	2
EC 100	Economics	
ENG 100	Language and Communications	2
MATH 107	Technical Mathematics	2
		29

Semesters III and IV		Periods per week
	Dental Clinic	9
DENT 200	Dental Laboratory and Lectures II	19
DENT 201	Dental Materials	1
DENT 202	Dental Anatomy	1
		30

PROGRAM: NURSERY AIDE — GBC CODE: AP 551
LOCATION: Kensington Campus — FEE: $6.25 per week
LENGTH: 16 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Grade 10 or equivalent

The nursery aide is engaged in the actual care and guidance of pre-school children, under the direction of a qualified nursery supervisor in a nursery school or day nursery. Knowledge of the basic aims and procedures of routine and play activities in different types of nurseries is essential, as well as a knowledge of young children. Physical stamina and good health are required, as it is often necessary to lift a child or move materials and equipment. Because the adults in a nursery must work well together, it is essential that positive mental health habits are practiced.

In order to gain practical experience and to have the opportunity to observe young children, students are placed in day nurseries in the community.

NA	530	History of Pre-School Education
NA	532	Guidance Methods
NA	533	Programs - Routine and Play
NA	535	Child Development
NA	536	Mental Health - Psychology
NA	537	First Aid
NA	538	Field Practice
NA	539	Creative Activities with Children
NA	540	Nutrition

PROGRAM: AIR CONDITIONING TECHNICIAN
LOCATION: Casa Loma Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent

GBC CODE: AR 101
FEE: $295 per year

The air conditioning technician has a specialized working knowledge of the design, installation and operation of air conditioning systems in residential, commercial and industrial buildings.

There are many challenging opportunities in the air conditioning industry for trained technicians interested in occupations such as sales promotion, system design, job estimating, contract supervision, and system balancing.

Semester I (First Year)		Periods per week
AIR 100	Refrigeration	10
AIR 105	Air Conditioning	7
AIR 108	Instrumentation	2
AIR 109	Electrical Fundamentals	3
ARDR 124	Drafting	2
MATH 100	Mathematics	3
PHYS 100	Applied Physics I	2
WELD 149	Welding - Oxy-Acetylene	5
WELD 149	Welding - Brazing and Cutting	2
		31

Semester II (First Year)		Periods per week
HT 104	Heating	8
AIR 105	Air Conditioning	7
AIR 107	Hydronic Heating	2
AIR 109	Electrical Fundamentals	3
ARDR 124	Drafting	2
MATH 100	Mathematics	3
PHYS 100	Applied Physics I	2
ENG 100	Language and Communications	3
		30

Semester III (Second Year)		Periods per week
HT 114	Heating	5
AIR 203	Air Conditioning Systems	9
AIR 201	Automatic Controls	3
ARDR 232	Drafting	4
PHYS 202	Physics/Thermodynamics	2
ENG 200	Language and Communications	2
MATH 200	Mathematics	3
MATH 120	Applied Computer Programming	2
		30

Semester IV (Second Year)		Periods per week
MATH 200	Mathematics	3
ENG 200	Language and Communications	2
PHYS 202	Thermodynamics	2
AIR 200	Refrigeration	7
AIR 201	Automatic Controls	3
AIR 203	Air Conditioning Systems	9
AIR 205	Estimating	4
		30

PROGRAM: APPLIANCE SERVICING GBC CODE: AR 545
LOCATION: Casa Loma Campus FEE: $6.25 per week
LENGTH: 40 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10 or equivalent

This program is designed to give a thorough knowledge of the theory and practice required for the maintenance and repair of home appliances. The student should have a high mechanical aptitude. Students are prepared for such occupations as servicemen, factory representatives, field representatives, appliance salesmen, appliance inspectors, and production supervisors. Courses in laundry equipment, refrigeration and electrical appliances are presented in blocks of thirteen weeks.

Semesters I, II and III (each 13 weeks)

AP 530	Laundry Equipment
AP 532	Refrigeration
AP 533	Electrical Appliances
MATH 534	Mathematics
ENG 530	Language and Communications
SBM 532	Small Business Management

PROGRAM: BLUEPRINT READING GBC CODE: AR 583
LOCATION: Casa Loma Campus FEE: $6.25 per week
LENGTH: 8 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10 or equivalent

Advancement in many companies depends on ability to read blueprints. This progra should enable a person to improve his position in the area of his specialization.

ARDR 538	Blueprint Reading
ENG 516	English
MATH 516	Mathematics

PROGRAM: CARPENTRY - GENERAL (ADVANCED) GBC CODE: AR 583
LOCATION: Casa Loma Campus FEE: $6.25 per week
LENGTH: 8 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10 or equivalent

This course is offered to students who are desirous of learning the skills that would fit them for the carpentry industry. The course covers hand and power tool general woodworking, acoustics, metal work, and welding. If the student wishes t continue into the Apprenticeship Program, credits within the apprenticeship regulations are given for the in-school training.

Semesters I and II (each 20 weeks)

CAR 530	Carpentry
ENG 530	English
MATH 530	Mathematics
ARDR 541	Drafting

ARCHITECTURAL TECHNOLOGY

ROGRAM: CIVIL ENGINEERING TECHNICIAN GBC CODE: AR 110
OCATION: Casa Loma Campus FEE: $295 per year
ENGTH: 2 Years
ERTIFICATION: Diploma
REREQUISITE: Ontario Secondary School Graduation Diploma or equivalent

his program provides basic theoretical and practical training for those who eek a career in the design, planning or construction of civil engineering rojects such as highways, structures, site surveying, pollution control, and tilities.

pon graduation, the student who elects to take this program could expect to find mployment with consulting engineers, highway departments, construction firms, or lanning departments.

e can be employed as design draftsman, engineering assistant, site surveyor, onstruction supervisor, or quality inspector.

emester I (First Year)

		Periods per week
URV 101	Plane Surveying	8
V 101	Engineering Drawing and Design	6
V 103	Construction Materials	3
V 104	Specifications and Estimating	2
ATH 100	Mathematics	5
NG 100	Language and Communications	2
ECH 100	Mechanics	5
		31

emester II (First Year)

		Periods per week
URV 101	Plane Surveying	8
V 101	Engineering Drawing and Design	6
V 103	Construction Materials	3
V 104	Specifications and Estimating	2
ATH 100	Mathematics	5
NG 100	Language and Communications	2
HYS 100	Applied Physics I	5
		31

Semester III (Second Year)

		Periods per week
V 200	Structural Drawing and Design	4
V 202	Municipal Services	3
V 203	Highway Technology	5
V 204	Specifications and Estimating	2
URV 201	Advanced Plane Surveying	6
ATH 120	Applied Computer Programming	2
ATH 200	Mathematics	4
NG 200	Language and Communications	2
ECH 110	Mechanics of Materials	2
		30

PROGRAM: CIVIL ENGINEERING TECHNICIAN (cont'd)

Semester IV (Second Year)		Periods per week
CIV 200	Structural Drawing and Design	4
CIV 202	Municipal Services	3
CIV 203	Highway Technology	5
CIV 204	Specifications and Estimating	2
SURV 201	Advanced Plane Surveying	6
MATH 120	Applied Computer Programming	2
MATH 200	Mathematics	4
ENG 200	Language and Communications	2
MECH 110	Mechanics of Materials	2
		30

PROGRAM: CONCRETE TECHNICIAN
LOCATION: Casa Loma Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent

GBC CODE: AR 109
FEE: $295 per year

This program is designed to equip the graduate with the knowledge and techniques required for employment within the ever expanding concrete industry.

The graduate will be able to operate at a significant and unique level in the labour force, between the engineer and the skilled craftsman. He will be familiar with the responsibilities and talents of both these professionals.

The curriculum has been designed to encompass a wide range of courses, and will open up job opportunities in concrete construction, inspection, manufacturing, supply, and sales.

Semester I (First Year)		Periods per week
CO 101	Quantity Surveying I	4
CO 105	Principles of Concrete	4
CO 106	Concrete Construction Methods I	6
CO 107	Blueprint Reading and Drafting	4
MATH 100	Mathematics	5
ENG 100	Language and Communications	2
MECH 100	Mechanics	5
		30

Semester II (First Year)		Periods per week
CO 101	Quantity Surveying I	4
CO 105	Principles of Concrete	4
CO 106	Concrete Construction Methods I	6
CO 107	Blueprint Reading and Drafting	4
MATH 100	Mathematics	5
ENG 100	Language and Communications	2
MECH 110	Mechanics of Materials	5
		30

PROGRAM: CONCRETE TECHNICIAN (cont'd)

Semester III (Second Year)		Periods per week
CO 203	Contracts and Specifications	3
CO 205	Principles of Concrete	4
CO 206	Concrete Construction Methods II	4
CO 207	Concrete Structural Design	4
CHEM 215	Chemistry	4
PSY 204	Industrial Psychology and Salesmanship	4
MATH 200	Mathematics	4
ENG 200	Language and Communications	2
MATH 120	Applied Computer Programming	2
		31

Semester IV (Second Year)		Periods per week
CO 203	Contracts and Specifications	3
CO 205	Principles of Concrete	4
CO 206	Concrete Construction Methods II	4
CO 207	Concrete Structural Design	4
EC 214	Business Management and Labour Relations	4
CHEM 215	Chemistry	4
MATH 200	Mathematics	4
ENG 200	Language and Communications	2
MATH 120	Applied Computer Programming	2
		31

PROGRAM: CONSTRUCTION TECHNICIAN
LOCATION: Casa Loma Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent

GBC CODE: AR 103
FEE: $295 per year

With the guidance and advice of a committee representing the construction and allied industries, this program is designed to prepare young men to enter the construction industry in various capacities leading to positions as estimators, expediters, building inspectors, building products salesmen, field engineers, and superintendents. These positions are not seasonal in nature.

Semester I (First Year)		Periods per week
CO 100	Building Construction	4
CO 101	Quantity Surveying I	6
CO 102	Mechanical Installations I	3
CO 103	Construction Materials	3
CO 104	Site Engineering	2
MATH 100	Mathematics	5
ENG 100	Language and Communications	2
MECH 100	Mechanics	5
		30

PROGRAM: CONSTRUCTION TECHNICIAN (cont'd)

Semester II (First Year)		Periods per week
CO 100	Building Construction	4
CO 101	Quantity Surveying I	6
CO 102	Mechanical Installations I	3
CO 103	Construction Materials	3
CO 104	Site Engineering	2
MATH 100	Mathematics	5
ENG 100	Language and Communications	2
PHYS 100	Applied Physics I	5
		30

Semester III (Second Year)		Periods per week
CO 204	Site Engineering	6
CO 200	Building Construction	2
CO 201	Quantity Surveying II	3
CO 202	Mechanical Installations II	4
CO 203	Contracts and Specifications	4
MATH 200	Mathematics	4
ENG 200	Language and Communications	2
EC 100	Economics	2
MECH 110	Mechanics of Materials	2
MATH 120	Applied Computer Programming	2
		31

Semester IV (Second Year)		Periods per week
CO 204	Site Engineering	2
CO 200	Building Construction	4
CO 201	Quantity Surveying II	5
CO 202	Mechanical Installations II	4
CO 203	Contracts and Specifications	4
MATH 200	Mathematics	4
ENG 200	Language and Communications	2
EC 100	Economics	2
MECH 110	Mechanics of Materials	2
MATH 120	Applied Computer Programming	2
		31

PROGRAM: DRAFTING
LOCATION: Casa Loma Campus
LENGTH: 40 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10 or equivalent

GBC CODE: AR 540
FEE: $6.25 per week

Graduates of this program find employment in architectural and engineering offices, municipal and provincial offices, and electrical or electronic offices. Students graduating from this program with honours standing will be considered for admission to the technician program. A similar program is also offered in Engineering Technology, EN 560.

Semesters I and II (each 20 weeks)

ARDR 551	Architectural Drawing
ARDR 550	Materials and Methods
ARDR 552	Mechanical Drawing
ARDR 558	Electrical Drawing
ARDR 559	Mechanical Services Drawing
MATH 530	Mathematics
ENG 530	Language and Communications

PROGRAM: DRAFTING REFRESHER
LOCATION: Casa Loma Campus
LENGTH: 20 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10 or equivalent

GBC CODE: AR 547
FEE: $6.25 per week

This program has been designed to familiarize students who have already obtained their qualifications in countries outside Canada with Canadian engineering practice in mechanical, architectural, structural, electrical, or electronic fields.

Satisfactory completion of the program will ensure the ability to compete in the industrial market for positions of at least a junior draftsman level.

ARDR 539	Drafting
MATH 533	Mathematics
ENG 541	Language and Communications

ELECTIVES - architectural, mechanical, structural, electrical, or electronics drafting

PROGRAM: DRAFTING TECHNICIAN - ARCHITECTURAL
LOCATION: Casa Loma Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent

GBC CODE: AR 104
FEE: $295 per year

This program is designed to provide technicians for architects' offices, construction companies, engineering firms, and government departments. The program of instruction is arranged to develop skills in architectural drawing, detailing, rendering, and model building; and to impart knowledge of architectural design, contracts, organization, and business relationships.

Graduates find employment as draftsmen, field representatives, building product salesmen, and expediters.

Semester I (First Year)		Periods per week
ARCH 100	Materials and Methods	2
ARDR 102	Architectural Drafting I	11
ARDR 120	Descriptive Geometry I	2
SURV 110	Surveying	3
MATH 100	Mathematics	5
ENG 100	Language and Communications	2
MECH 100	Mechanics	5
		30

Semester II (First Year)		Periods per week
ARCH 100	Materials and Methods	2
ARDR 102	Architectural Drafting I	10
ARDR 120	Descriptive Geometry I	2
MATH 100	Mathematics	5
ENG 100	Language and Communications	2
EC 100	Economics	4
PHYS 100	Applied Physics I	5
		30

Semester III (Second Year)		Periods per week
ARCH 200	Materials and Methods	2
ARDR 111	Mechanical Installations Drafting	3
ARDR 202	Architectural Drafting II	10
ARDR 220	Descriptive Geometry II	4
MATH 200	Mathematics	4
ENG 200	Language and Communications	2
MECH 110	Mechanics of Materials	4
MATH 120	Applied Computer Programming	2
		31

Semester IV (Second Year)		Periods per week
ARCH 200	Materials and Methods	3
ARDR 202	Architectural Drafting II	10
ARDR 111	Mechanical Installations Drafting	3
CO 101	Quantity Surveying I.	4
ARDR 115	Structural Drafting	4
MATH 200	Mathematics	4
ENG 200	Language and Communications	2
		30

PROGRAM: DRAFTING TECHNICIAN - GENERAL
LOCATION: Casa Loma Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent

GBC CODE: AR 105
FEE: $295 per year

Versatility is the keynote of this program which trains for industry a draftsman who has a general knowledge of the architectural, survey and mechanical installations. With such a versatile background, the graduate should be an asset to any drafting office.

Semester I (First Year)		Periods per week
ARDR 112	Drafting	6
SURV 100	Survey Computations and Drafting	4
ARDR 154	Art and Presentation	4
ARCH 100	Materials and Methods	4
MATH 100	Mathematics	5
ENG 100	Language and Communications	2
MECH 100	Mechanics	5
		30

Semester II (First Year)		Periods per week
ARDR 102	Architectural Drafting I	8
ARDR 120	Descriptive Geometry I	4
MATH 100	Mathematics	5
ENG 100	Language and Communications	2
ARDR 107	Mechanical Installations Drafting I	6
MECH 110	Mechanics of Materials	5
		30

Semester III (Second Year)		Periods per week
ARDR 202	Architectural Drafting II	8
MATH 200	Mathematics	4
ENG 200	Language and Communications	2
SURV 100	Survey Computations and Drafting	4
ARDR 108	Structural Drafting I	5
ARCH 200	Materials and Methods	4
STR 123	Structural Design	3
		30

Semester IV (Second Year)		Periods per week
ARDR 202	Architectural Drafting II	6
ARDR 107	Mechanical Installations Drafting I	6
ARDR 108	Structural Drafting I	4
STR 123	Structural Design	3
PHYS 100	Applied Physics I	5
ENG 200	Language and Communications	2
MATH 200	Mathematics	4
		30

PROGRAM: DRAFTING TECHNICIAN - MECHANICAL SERVICES
GBC CODE: AR 107
LOCATION: Casa Loma Campus
FEE: $295 per year
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent

This program is intended to prepare a technician for a position in an architect's or consultant's office as a draftsman or estimator in the mechanical installation department. The student will gain some knowledge of the design and a thorough knowledge of the graphical layout of all the mechanical services required in an architectural structure, plus a general knowledge of the architectural and structural components and methods of construction. A very broad and intensive study is made in the areas of air conditioning, refrigeration, warm air, water and steam heating systems, and plumbing and drainage systems.

Semester I (First Year)		Periods per week
ARDR 106	Architectural Drafting I	4
ARDR 107	Mechanical Installation Drafting I	8
ARDR 109	Electrical Installation Drafting I	4
ARDR 120	Descriptive Geometry I	2
MATH 100	Mathematics	5
ENC 100	Language and Communications	2
MECH 100	Mechanics	5
		30

Semester II (First Year)		Periods per week
ARDR 106	Architectural Drafting I	4
ARDR 107	Mechanical Installations Drafting I	8
ARDR 109	Electrical Installations Drafting I	4
ARDR 120	Descriptive Geometry I	2
MATH 100	Mathematics	5
ENC 100	Language and Communications	2
PHYS 100	Applied Physics I	5
		30

Semester III (Second Year)		Periods per week
ARDR 228	Air Conditioning and Refrigeration	9
ARDR 229	Heating Systems	4
ARDR 230	Plumbing Systems	6
MATH 200	Mathematics	4
ENG 200	Language and Communications	2
MECH 115	Mechanics of Fluids	5
		30

ARDR 228	Air Conditioning and Refrigeration	9
ARDR 229	Heating Systems	4
ARDR 230	Plumbing Systems	6
MATH 200	Mathematics	4
ENC 200	Language and Communications	2
MECH 110	Mechanics of Materials	5
		30

PROGRAM: DRAFTING TECHNICIAN - STRUCTURAL
GBC CODE: AR 108
LOCATION: Casa Loma Campus
FEE: $295 per year
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent

For the young man gifted with a talent for technical work, the opportunity to play a part in the construction industry offers a most interesting vocation. To be one of the team that is building the modern scene is itself a satisfying experience. It is for the purpose of assisting the young man with ambition that this program is offered. Graduates of the program will find a waiting field in engineering offices, fabricating companies, and municipal and governmental offices.

Semester I (First Year)		Periods per week
CO 200	Building Construction	4
ARDR 120	Descriptive Geometry I	3
STR 122	Structural Detailing	11
MATH 100	Mathematics	5
ENC 100	Language and Communications	2
MECH 100	Mechanics	5
		30

Semester II (First Year)		Periods per week
ARDR 120	Descriptive Geometry I	3
STR 122	Structural Detailing	11
MATH 100	Mathematics	5
ENC 100	Language and Communications	2
MECH 110	Mechanics of Materials	5
SURV 110	Surveying	4
		30

Semester III (Second Year)		Periods per week
CO 103	Construction Materials	3
CO 208	Mechanical and Electrical Installations	3
STR 212	Structural Steel - Problems and Drawing	8
STR 213	Reinforced Concrete - Problems and Drawing	7
MATH 200	Mathematics	4
ENG 200	Language and Communications	2
MECH 210	Mechanics of Materials	3
		30

Semester IV (Second Year)		Periods per week
CO 103	Construction Materials	3
CO 208	Mechanical and Electrical Installations	3
STR 214	Project Drawing	15
MATH 200	Mathematics	4
ENC 200	Language and Communications	2
MECH 210	Mechanics of Materials	3
		30

PROGRAM: DRY WALL TAPER — GBC CODE: AR 582
LOCATION: Casa Loma Campus — FEE: $6.25 per week
LENGTH: 8 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 8 or equivalent

The emphasis of this program is directed toward the basic hand skill, mechanical procedures, and trade techniques necessary for the development of competent mechanics within the taping field. The program is structured to prepare graduates to become employable with the drywall industry and to meet the ever growing demands of this industry for skilled drywall tapers.

TA 530	Taping/Drywall
MATH 516	Mathematics
ENG 516	English
ARDR 510	Drafting and Blueprint Reading

PROGRAM: HEATING TECHNICIAN — GBC CODE: AR 542
LOCATION: Casa Loma Campus — FEE: $6.25 per week
LENGTH: 52 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10 or equivalent

In the heating field, there is a considerable demand for technical personnel who are knowledgeable in oil, gas and electric heating and cooling systems. This demand has been created, in part, by the expansion of building construction.

Semester I

HT 500	Domestic Oil Burners
HT 501	Oil Burners
HT 510	Heating
PHYS 531	Electrical Module
MATH 533	Mathematics
ENG 541	Language and Communications
ARDR 531	Blueprint Reading

Semester II

HT 510	Heating
HT 511	Heating
HT 540	Gas Burners
MATH 530	Mathematics
PHYS 531	Physics
ARDR 531	Blueprint Reading
ENG 530	Language and Communications

Semester III

HT 512	Heating
HT 513	Heating
MATH 530	Mathematics
PHYS 531	Physics
ENG 530	Language and Communications

PROGRAM: MASONRY — GBC CODE: AR 550
LOCATION: Casa Loma Campus — FEE: $6.25 per week
LENGTH: 20 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Open

This program presents an introduction to the construction field with the emphasis on masonry. It endeavors to develop skill and dexterity in basic bricklaying techniques and to prepare and equip graduates for a successful formal apprenticeship.

MAS 530	Masonry
MATH 533	Mathematics
ARDR 553	Drafting
ENG 541	Language and Communications
WELD 547	Welding

PROGRAM: NATURAL GAS SERVICEMAN — GBC CODE: AR 543
LOCATION: Casa Loma Campus — FEE: $6.25 per week
LENGTH: 26 Weeks (possible revision to 22 weeks)
CERTIFICATION: Certificate
PREREQUISITE: Grade 10 graduation or equivalent

The complexity and variety of natural gas equipment in operation today has created a need for the well trained gas burner serviceman who is knowledgeable in domestic gas ranges, dryers, and the large commercial package gas fired boilers.

The gas burner servicing program has been developed by the College in response to a need from the gas industry. The program gives instruction in the installation and servicing of domestic gas burners, gas appliances, and commercial and industrial gas burners. The program has been designed to create a blend between theory and practice by giving equal weight to classroom instruction and practice in the gas shop.

HT 541	Domestic Gas Burners
HT 514	Commercial and Industrial Gas Burners
AP 534	Gas Appliances
MATH 533	Mathematics
DR 531	Blueprint Reading
ENG 541	Language and Communications

PROGRAM: OIL BURNER SERVICE — GBC CODE: AR 541
LOCATION: Casa Loma Campus — FEE: $6.25 per week
LENGTH: 20 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10 or equivalent

During the past few years, hundreds of thousands of automatic heating systems have been installed in Canada. This expansion has brought with it demands for qualified personnel to install and maintain this equipment.

HT 530	Domestic Oil Burners
HT 531	Oil Burners
HT 532	Heating
HT 540	Gas Burners
ARDR 531	Drafting and Blueprint Reading
MATH 533	Mathematics
ENG 541	Language and Communications

PROGRAM: PAINTING AND DECORATING GBC CODE: AR 546
LOCATION: Casa Loma Campus FEE: $6.25 per week
LENGTH: 8 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Grade 8 or equivalent

This eight week program has a major portion of its content directed towards paper hanging. It will cover all the grades, qualities and styles of wallpaper.

PDEC 530 Painting
MATH 516 Mathematics
ENG 516 English

PROGRAM: REFRIGERATION AND AIR CONDITIONING GBC CODE: AR 544
LOCATION: Casa Loma Campus FEE: $6.25 per week
LENGTH: 34 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10 or equivalent

This program is designed to prepare young men to enter an apprenticeship program leading to certification (compulsory in Ontario) as a journeyman refrigeration mechanic. This is an excellent opportunity for any young man who left school before completing Grade 12 to enter a challenging trade that pays well and assures full-time employment. Under an agreement with the Industrial Training branch of the Ministry of Colleges and Universities, graduates of this program are granted equivalent time off the apprenticeship period and are excused the in-school requirements of the basic period of the apprenticeship program.

Semesters I and II (each 17 weeks)

ARDR 536 Drafting
REF 533 Electrical
REF 530 Refrigeration Theory
REF 531 Refrigeration Practice
WELD 540 Oxy-acetylene Welding, Brazing and Cutting
MATH 532 Mathematics
ENG 530 Language and Communications

PROGRAM: RESIDENTIAL SIDING INSTALLER GBC CODE: AR 590
LOCATION: Casa Loma Campus FEE: $6.25 per week
LENGTH: 8 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Successful completion of prerequisite screening program

Installing metal siding, soffit, fascia, and rainwater goods are the opportunities that await the successful graduates of this program.

The structure of the program is such that the student will receive training in a broad range of minor skills involving metal handling and construction practices common to the current residential construction industry. The assembly of these skills in the later stages of the courses will create a much sought after specialist, who, with personal motivation, can secure a financially rewarding future.

SID 530 Siding Installation
MATH 516 Mathematics
ENG 516 English

PROGRAM: STATIONARY ENGINEERING GBC CODE: AR 548
LOCATION: Casa Loma Campus FEE: $6.25 per week
LENGTH: 40 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 8 or Grade 9

This program provides instruction in all modules required for accreditation toward the 4th class level of Stationary Engineering. In addition, practical training in boiler operation, together with ancillary equipment, is given. Because of the modular structure of training for Stationary Engineering certification, students are also provided with the opportunity, to attain up to full accreditation at the 3rd class level, but this will depend on time, individual effort, and capacity for learning.

4th CLASS

Semester I (20 weeks)

STAT 530 Power Plant Theory
STAT 535 Power Plant Practice
STAT 546 Electrical
STAT 560 Language and Communications
STAT 550 Mathematics
STAT 556 Physics
STAT 540 Instrumentation and Controls

3rd CLASS

Semester II (20 weeks)

STAT 531 Power Plant Theory
STAT 536 Power Plant Practice
STAT 547 Electrical/Electronics
STAT 561 Language and Communications
STAT 551 Mathematics
STAT 557 Physics
STAT 541 Instrumentation and Controls
STAT 570 B.P.R. and Strength of Materials

PROGRAM: SURVEY TECHNOLOGIST
LOCATION: Casa Loma Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent, but must have standing above the average in mathematics and science

GBC CODE: AR 106
FEE: $295 per year

The survey technologist is equipped to operate at the senior party chief level. He could also fill the position of senior draftsman or office manager in a survey office. He is qualified to accept technical responsibility for a project from its inception to its conclusion, and to consult with the professional engineer or Ontario Land Surveyor on the legal and technical aspects of the project.

In practising his career, the survey technologist is involved in operating survey equipment and carrying out control, topographical, or legal surveys, as well as interpreting aerial photographs, preparing field notes, programming computers, searching property ownership, and preparing plans and documents.

Module I (First Year)		Periods per week
ARDR 121	Descriptive Geometry	2
SURV 100	Survey Computations and Drafting	8
SURV 101	Plane Surveying	8
MATH 100	Mathematics	5
ENG 100	Language and Communications	2
MECH 100	Mechanics	5
		30

Module II (First Year)		Periods per week
ARDR 121	Descriptive Geometry	2
SURV 100T	Survey Computations and Drafting	5
SURV 101T	Plane Surveying	8
MATH 100T	Mathematics	5
ENG 100	Language and Communications	2
EC 100	Economics	4
PHYS 100T	Applied Physics I	5
		31

Module III (First Year)		Periods per week
ARDR 221	Descriptive Geometry	2
SURV 200T	Survey Computations and Drafting	7
SURV 201T	Advanced Plane Surveying	10
MATH 200T	Mathematics	5
ENG 200	Language and Communications	2
EL 130	Electrical Fundamentals	4
		30

Module IV (Second Year)		Periods per week
CIV 202	Municipal Services	4
SURV 200T	Survey Computations and Drafting	4
SURV 201T	Advanced Plane Surveying	6
SURV 202	Photogrammetry	2
SURV 203	Practical Astronomy	2
SURV 204	Legal Surveying	2
MATH 200T	Mathematics	5
ENG 200	Language and Communications	2
MATH 120	Applied Computer Programming	4
		31

PROGRAM: SURVEY TECHNOLOGIST (cont'd)

Module V (Second Year)		Periods per week
CIV 202	Municipal Services	4
SURV 203	Practical Astronomy	2
SURV 204	Legal Surveying	2
SURV 300T	Cartography	4
SURV 301T	Advanced Plane Surveying	8
SURV 302T	Photogrammetry	3
MATH 300T	Mathematics (Statistics)	5
ENG 332	Business Communication	2
		30

Module VI (Second Year)		Periods per week
CIV 302T	Municipal Services	4
SURV 300T	Cartography	6
SURV 301T	Advanced Plane Surveying	6
SURV 302T	Photogrammetry	3
SURV 303T	Practical Astronomy	2
SURV 304T	Legal Surveying	2
MATH 301T	Mathematics (Matrices)	5
ENG 332	Business Communication	2
		30

PROGRAM: BUSINESS
LOCATION: Teraulay Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or its equivalent

GBC CODE: B 109
FEE: $295 per year

These programs are designed for the student who seeks a broad, integrated education in the field of business, as well as the opportunity to specialize in selected subject areas. They are of two years duration, with starting dates in September and February. Successful graduates may qualify for the fifth semester Business Administration program.

In the second, third and fourth semesters, considerable scope will be provided in the selection of optional subjects to broaden the student's knowledge in business or other subject areas.

Programs of Study - common First Semester for Programs B 101, B 102, B 103, B 104, and B 108

Semester I (First Year)

		Periods per week
ENG 100	Language and Communications	5
MATH 114	Business Mathematics	5
ACC 100	Introduction to Accounting	5
EDP 100	Introduction to Data Processing	5
MARK 100	Introduction to Marketing	5
PHD 100	Physical Distribution	5
		30

PROGRAM: ACCOUNTING
LOCATION: Terauley Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or its equivalent

GBC CODE: B 101
FEE: $295 per year

The courses included in this program provide a valuable preparation for students interested in accounting occupations in business and industry. They also offer preparatory training for students interested in working towards membership in one of the professional accounting societies. Subject credits are granted by the societies in specified courses where content and standards are considered equivalent.

Semester I (First Year)		Periods per week
ENG 100	Language and Communications	5
MATH 114	Business Mathematics	5
ACC 100	Introduction to Accounting	5
EDP 100	Introduction to Data Processing	5
MARK 100	Introduction to Marketing	5
PHD 100	Physical Distribution	5
		30

Semester II (First Year)		Periods per week
ENG 101	Language and Communications	5
MATH 115	Business Mathematics	5
BUS 101	Human Relations	5
ACC 101	Accounting	10
	Option	5
		30

Semester III (Second Year)		Periods per week
ENG 201	English and the Business World	5
LAW 200	Business Law	5
ACC 200	General Accounting I	7
ACC 201	Accounting Systems	3
ACC 202	Cost Accounting I	5
	Option	5
		30

Semester IV (Second Year)		Periods per week
BUS 215	Media Applications	5
ACC 203	General Accounting II	10
ACC 204	Cost Accounting II	5
ACC 205	Auditing and Taxation	5
	Option	5
		30

PROGRAM: ELECTRONIC DATA PROCESSING
LOCATION: Terauley Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or its equivalent

GBC CODE: B 102
FEE: $295 per year

The graduate of this program will be thoroughly trained in both the theoretical and practical applications of computers. The course will be of particular interest to the student who is initially interested in a career as a computer programmer and who wishes to advance to the level of a systems analyst.

Applicants may be required to take an aptitude test before being admitted to the program.

Semester I (First Year)		Periods per week
ENG 100	Language and Communications	5
MATH 114	Business Mathematics	5
ACC 100	Introduction to Accounting	5
EDP 100	Introduction to Data Processing	5
MARK 100	Introduction to Marketing	5
PHD 100	Physical Distribution	5
		30

Semester II (First Year)	
ENG 101	Language and Communications
MATH 115	Business Mathematics
BUS 101	Human Relations
EDP 101	COBOL I
EDP 102	IBM/370 Assembler I
	Option

Semester III (Second Year)	
ENG 201	English and the Business World
MATH 214	Statistics I
EDP 200	COBOL II
EDP 205	IBM/370 Assembler II
EDP 202	Systems Analysis I
	Option

Semester IV (Second Year)	
BUS 205	Media Applications
EDP 204	Advanced Programming
EDP 206	Analysis II
EDP 208	Advanced EDP Topics
	Option
	Option

PROGRAM: MARKETING
LOCATION: Terraulay Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent

GBC CODE: B103
FEE: $295 per year

The graduate of the two year program is prepared for employment in any of the marketing functions, such as advertising, sales, planning, market research, wholesaling, and retailing.

The program provides through lecture, field work and case study a broad comprehension of the marketing process so that the student may enter the above fields in any organization or may establish his own business.

Semester I (First Year)		Periods per week
ENG 100	Language and Communications	5
MATH 114	Business Mathematics	5
ACC 100	Introduction to Accounting	5
EDP 100	Introduction to Data Processing	5
MARK 100	Introduction to Marketing	5
PHD 100	Physical Distribution	5
		30

Semester II (First Year)		Periods per week
ENG 101	Language and Communications	5
MATH 115	Business Mathematics	5
BUS 101	Human Relations	5
MARK 101	The Sales Aspect of Marketing	5
MARK 102	Advertising and Sales Promotion	5
	Option	5
		30

Semester III (Second Year)		Periods per week
ENG 201	English and the Business World	5
MATH 214	Statistics I	5
MARK 200	Product Planning and Pricing Policy	5
MARK 201	Distribution Channels	5
MARK 202	Marketing Research and Information	5
		30

Semester IV (Second Year)		Periods per week
BUS 215	Media Applications	5
MARK 205	Marketing Management I	5
MARK 206	Marketing Management II	5
MARK 207	Marketing Management III	5
	Options (two)	10
		30

PROGRAM: BUSINESS - GENERAL
LOCATION: Terraulay Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent

GBC CODE: B 104
FEE: $295 per year

The objective of this program is to provide students with a highly flexible business program; to enable students to select option combinations that will prepare them for positions in office supervision, personnel, purchasing, and production control; or to make possible any combinations of B 101, B 102 and B 103 which may be of particular interest to them, eg. marketing and data processing for market research.

Semester I (First Year)		Periods per week
ENG 100	Language and Communications	5
MATH 114	Business Mathematics	5
ACC 100	Introduction to Accounting	5
EDP 100	Introduction to Data Processing	5
MARK 100	Introduction to Marketing	5
PHD 100	Physical Distribution	5
		30

Semester II (First Year)		Periods per week
ENG 101	Language and Communications	5
MATH 115	Business Mathematics	5
BUS 101	Human Relations	5
	3 Options or Majors of B 101, B 102 or B 103 at 101 or 102 level	15
		30

Semester III (Second Year)		Periods per week
ENG 201	English and the Business World	5
MATH 214	Statistics I	5
PSY 160	Psychology I	5
	3 Options or Majors of B 101, B 102 or B 103 at 101, 102, 200 or 201 level	15
		30

Semester IV (Second Year)		Periods per week
BUS 215	Media Applications	5
	5 Options or Majors of B 101, B 102 or B 103 at 101, 102, 200, 201, 202, 203, 204 or 205 level	25
		30

PROGRAM: SECRETARIAL SCIENCE - GENERAL
LOCATION: Teraulay Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent; no previous knowledge of shorthand or typewriting is required Holders of a Secondary School Graduation Diploma who can provide a statement to indicate that they can type at the rate of 45 wpm and can take shorthand (Pitman or machine) at 80 wpm may enter the third semester of this program. Direct entry applicants must be prepared to take a test to substantiate the necessary skill speeds prior to registration.

GBC CODE: B105
FEE: $295 per year

The graduates of the two year general secretarial program will have developed the necessary skills in shorthand and typewriting and will also have covered the related secretarial duty areas in sufficient depth to meet the decision-making ability of a competent secretary in business.

Credit will be given to students with typing and shorthand skills, thus enabling them to shorten or enrich (through options) their programs.

Semester I (First Year)		Periods per week
ENG 100	Language and Communications	5
MATH 113	Business Mathematics	3
OP 100	Typewriting and Office Practice	7
SH 100	Shorthand (Pitman or machine)	10
	Option	5
		30

Semester II (First Year)		Periods per week
ENG 104	Business Communication	5
OP 101	Typewriting and Office Practice	10
SH 101	Shorthand (Pitman or machine)	10
	Option	5
		30

Semester III (Second Year)		Periods per week
ENG 201	English and the Business World	5
ACC 105	Secretarial Accounting	5
SH 200	Shorthand	10
OP 200	Secretarial Procedures and Business Organization	10
		30

Semester IV (Second Year)		Periods per week
ENG 204	Business Communication	5
LAW 105	Business Law	3
SH 201	Applied Stenography	10
OP 201	Secretarial Practice and Word Processing	10
DIC 105	Dictaphone	2
		30

PROGRAM: SECRETARIAL SCIENCE - LEGAL
LOCATION: Teraulay Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent; no previous knowledge of shorthand or typewriting is required Holders of a Secondary School Graduation Diploma who can provide a statement to indicate that they can type at the rate of 45 wpm and can take Pitman or machine shorthand at 80 wpm may enter the third semester of this program. Direct entry applicants must be prepared to take a test to substantiate the necessary skill speeds prior to registration.

GBC CODE: B 106
FEE: $295 per year

This program provides the skills and knowledge required for successful entry into legal secretarial positions.

Semester I (First Year)		Periods per week
ENG 100	Language and Communications	5
MATH 113	Business Mathematics	3
OP 100	Typewriting	7
SH 100	Shorthand (Pitman or machine)	10
	Option	5
		30

Semester II (First Year)		Periods per week
ENG 104	Business Communication	5
OP 101	Typewriting and Office Practice	10
SH 101	Shorthand (Pitman or machine)	10
	Option	5
		30

Semester III (Second Year)		Periods per week
ENG 201	English and the Business World	5
LAW 202	Business Law	5
OP 202	Legal Office Practice	5
SH 202	Legal Shorthand	10
BUS 133	Word Processing and Dicta	5
		30

Semester IV (Second Year)		Periods per week
ENG 204	Business Communication	5
LAW 203	Business Law	5
OP 203	Legal Office Practice	5
SH 203	Legal Shorthand	7
ACC 106	Legal Accounting	3
BUS 134	Word Processing and Dicta	5
		30

PROGRAM: SECRETARIAL SCIENCE - MEDICAL
LOCATION: Terrauley Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent; no previous knowledge of shorthand or typewriting is required
Holders of a Secondary School Graduation Diploma who can provide a statement to indicate that they can type at the rate of 45 wpm and can take Pitman or machine shorthand at 80 wpm may enter the third semester of the medical shorthand program. Entry is gained to the medical dicta program only in semester III, by holding a Grade 12 certificate and possessing the ability to type at a minimum of 45 wpm. Direct entry applicants must be prepared to take a test to substantiate the necessary skill prior to registration.

GRC CODE: B 107
FEE: $295 per year

This program is designed to train medical secretaries and medical dicta-typists for positions in their respective fields.

Semester I (First Year)

		Periods per week
ENG 100	Language and Communications	5
MATH 113	Business Mathematics	3
OP 100	Typewriting	7
SH 100	Shorthand (Pitman or machine)	10
	Option	5
		30

Semester II (First Year)

		Periods per week
ENG 104	Business Communication	5
OP 101	Typewriting and Office Practice	10
SH 101	Shorthand (Pitman or machine)	10
	Option	5
		30

Semester III (Second Year)

		Periods per week
ENG 201	English and the Business World	5
OP 204	Medical Office Practice	5
SH 204	Medical Shorthand	10
ANAT 100	Anatomy and Physiology	5
DIC 101	Medical Typing and Dicta	5
		30

Semester IV (Second Year)

		Periods per week
ENG 204	Business Communication	5
OP 205	Medical Office Practice	5
SH 205	Medical Shorthand	7
ANAT 100	Anatomy and Physiology	5
ACC 107	Medical Accounting	3
DIC 102	Medical Typing, Dicta and Word Processing	5
		30

PROGRAM: SECRETARIAL SCIENCE - MEDICAL (cont'd)

MEDICAL DICTAPHONE PROGRAM

Semester III (Second Year)

		Periods per week
ENG 201	English and the Business World	5
OP 204	Medical Office Practice	5
DIC 200	Medical Dictaphone	8
ANAT 100	Anatomy and Physiology	5
ANAT 101	Medical Dicta	2
DIC 101	Medical Typing, Dicta and Word Processing	5
		30

Semester IV (Second Year)

		Periods per week
ENG 204	Business Communication	5
OP 205	Medical Office Practice	5
DIC 201	Medical Dictaphone	5
ANAT 100	Anatomy and Physiology	5
ANAT 101	Medical Dicta	2
ACC 107	Medical Accounting	3
DIC 102	Medical Typing, Dicta and Word Processing	5
		30

PROGRAM: PHYSICAL DISTRIBUTION
LOCATION: Teraulay Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent

GBC CODE: B 108
FEE: $295 per year

The graduate in physical distribution has a thorough and specialized working knowledge of the processes of moving goods from the producer to the consumer, as it applies to local, national or international operations.

Numerous challenging opportunities exist in business, industry and government in the fields of traffic management, inventory control, warehousing, and import/export.

Semester I (First Year)

		Periods per week
ENG 100	Language and Communications	5
MATH 114	Business Mathematics	5
ACC 100	Introduction to Accounting	5
EDP 100	Introduction to Data Processing	5
MARK 100	Introduction to Marketing	5
PHO 100	Physical Distribution	5
		30

Semester II (First Year)

		Periods per week
PHD 102	Physical Distribution Analysis	5
PHO 103	Warehousing Management	5
PHD 105	Inventory Control I	5
BUS 101	Human Relations	5
ENG 101	Language and Communications	5
	Option	5
		30

Semester III (Second Year)

		Periods per week
PHD 202	Physical Distribution Management I	5
PHO 204	Industrial Purchasing	5
PHO 203	Traffic and Transport Management I	5
ENG 201	English and the Business World	5
MATH 214	Statistics I	5
	Option	5
		30

Semester IV (Second Year)

		Periods per week
PHD 205	Physical Distribution Management II	5
PHD 206	Inventory Control II	5
PHO 207	Traffic and Transportation Management II	5
BUS 215	Media Applications	5
	Options (two)	10
		30

PROGRAM: BUSINESS ADMINISTRATION
LOCATION: Teraulay Campus
LENGTH: 5 Semesters
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation or equivalent

GBC CODE: B109
FEE: $295.per year

To qualify for admittance to the "5th Semester" program, a candidate must complete a 2 Year program in Accounting, Data Processing, General Business, Marketing, or Physical Distribution taken at George Brown College, and with a GPA of 2.5 or better in 4th semester.

This "5th Semester" program provides a senior management overview of the business enterprise.

Its objective is to enable the student to see the overall needs of the organization and to relate these to specialized training received in earlier semesters, thereby preparing for higher levels of management following graduation and work experience.

Semester I (First Year)

See BUSINESS (GBC Code B 109)

Semester II (First Year) and Semesters III and IV (Second Year)

See GBC Code B 101 - ACCOUNTING; GBC Code B 102 - ELECTRONIC DATA PROCESSING; GBC Code B 104 - BUSINESS - GENERAL; GBC Code B 103 - MARKETING; GBC Code B 108 - PHYSICAL DISTRIBUTION

Semester V (Third Year)

		Periods per week
BUS 320	Organizational Behaviour	5
BUS 321	Financial Management	5
BUS 322	International Business	5
BUS 323	Management Information Systems	5
	External Research Project and/or On-Job Training	10
		30

PROGRAM: SECRETARIAL SCIENCE - NO SHORTHAND
LOCATION: Terauley Campus
LENGTH: 2 Years
CERTIFICATION:
PREREQUISITE:

GBC CODE:
FEE: $295 per year

Semester I (First Year)		Periods per week
ENG 100	Language and Communications	5
MATH 113	Business Mathematics	3
OP 100	Typing	12
BUS 131	Speed Writing	5
	Option	5
		30

Semester II (First Year)		Periods per week
ENG 104	Business Communication	5
OP 101	Typewriting and Office Practice	10
BUS 132	Speed Writing	5
EDP 100	Electronic Data Processing	5
	Option	5
		30

Semester III (Second Year)		Periods per week
ENG 201	English and the Business World	5
BUS 100	Business Organization	3
ACC 105	Secretarial Accounting	2
EDP 130	Electronic Data Processing and Keypunch	5
BUS 133	Word Processing and Dicta	5
OP 200	Secretarial Procedures	10
		30

Semester IV (Second Year)		Periods per week
ENG 204	Business Communication	5
LAW 105	Business Law	3
EDP 131	Electronic Data Processing and Keypunch	5
BUS 134	Word Processing and Dicta	5
OP 201	Secretarial Practice	10
		30

PROGRAM: SALES
LOCATION: Terauley Campus
LENGTH: 1 Year
CERTIFICATION: Certificate
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent

GBC CODE: B 142
FEE: $295 per year

The graduate will be prepared for employment in all areas of commerce directly related to sales. Special studies include a course in salesmanship designed to develop the student's sales skills with strong emphasis on field conditions. Complementary academic subjects are included to provide an understanding of other related business areas which will increase his effectiveness in sales and prepare the student for further advancement. The program can be timetabled as a regular day program consisting of two consecutive semesters or arranged so that the student attends one semester at the College, works for a semester and returns to the College for a final semester.

Semester I		Periods per week
ENG 100	Language and Communications	5
BUS 100	Business Organization	5
MATH 114	Business Mathematics	5
BUS 101	Human Relations	5
MARK 100	Introduction to Marketing	5
ACC 100	Introduction to Accounting	5
		30

Semester II		Periods per week
ENG 100	Language and Communications	5
MATH 114	Business Mathematics	5
LAW 200	Business Law	5
MARK 101	The Sales Aspects of Marketing	5
MARK 201	Distribution Channels	5
	Option	5
		30

PROGRAM: COURT REPORTING
LOCATION: Terauley Campus
LENGTH: 1 Year
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent and the successful completion of a recognized legal secretarial science program or related business experience; a shorthand speed of 130 wpm on straight matter for five minutes and 60 wpm in typing. Applicants must be prepared to take a test to substantiate the necessary skill speeds prior to registration.

GBC CODE: 141
FEE: $295 per Year

An intensive course in reporting skills which will prepare the student for employment in the court reporting field and enable him to write the Chartered Shorthand Reporters' Association examinations.

Semester I		Periods per week
ENG 301	English and the Legal World	3
BUS 307	Legal, Medical and General Terminology	5
BUS 308	Court Procedures	5
BUS 309	Current Events	2
SH 302	Shorthand and Transcription (Pitman or Machine)	15

Semester II		Periods per week
ENG 304	English and the Legal World	3
BUS 312	Legal, Medical and General Terminology	5
BUS 311	Field Work in the Courts	5
BUS 310	Current Events	2
SH 303	Shorthand and Transcription (Pitman or Machine)	15
		30

PROGRAM: BUSINESS MACHINES
LOCATION: Terauley Campus
LENGTH: 12 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Typing 35 wpm; ability to read and understand English at the Ontario Grade 10 level

GBC CODE: B 573
FEE: $6.25 per week

The student is introduced to electronic printing and rotary calculators. When proficiency on these machines is reached, the student is given training on bookkeeping machines.

Graduates acquire sufficient knowledge of calculating machines to enable them to solve mathematical business problems and to adapt quickly to any new equipment encountered in a business office. Those whose prerequisite qualifications include courses in bookkeeping acquire a knowledge of performing the complete bookkeeping cycle on the bookkeeping machines and become accredited machine bookkeepers. Those whose prerequisite qualifications do not include courses in bookkeeping acquire a knowledge of posting accounts receivable, accounts payable and payroll on the bookkeeping machine and become accredited posting machine operators.

Instruction is given on 10-key adders, rotary calculators, printing calculators, electronic calculators, editing, posting, and bookkeeping machines.

		Periods per week
BM 554	Business Machines	15
TYP 558	Typing	15
		30

PROGRAM: BUSINESS MACHINES AND BOOKKEEPING
LOCATION: Terauley Campus
LENGTH: 40 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Acceptable standing in English language

GBC CODE: B 551
FEE: $6.25 per week

The program is designed to enable graduates to fill the positions of general office workers in industry with a minimum of on-the-job training. The accent is on manual and machine bookkeeping. Practical work is given on a wide range of the most modern equipment available for office use, such as electronic bookkeeping machines, calculators and data processing equipment. Office methods and procedures are also taught.

		Periods per week
BOK 548	Bookkeeping	5
ENG 549	Business Communication	5
TYP 548	Typewriting	15
BM 548	Business Machines	5
		30

PROGRAM: CLERK TYPIST
LOCATION: Terauley Campus
LENGTH: 24 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Acceptable standing in English language

GBC CODE: B 553
FEE: $6.25 per week

The purpose of this program is to train the student, by an intensive course, to a skill level which will enable the graduate to be employed as a clerk typist.

		Periods per week
TYP 552	Typewriting and Office Practice	20
ENG 546	Business Communication	5
MATH 556	Business Mathematics	5
		30

PROGRAM: COMMERCIAL ACCOUNTING
LOCATION: Terauley Campus
LENGTH: 40 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Acceptable standing in English language and reading

GBC CODE: B 554
FEE: $6.25 per week

This program offers the student a thorough grounding in the principles and practices of modern day accounting. The graduate is equipped to assume employment in accounting oriented positions.

		Periods per week
MATH 548	Business Mathematics	3
ENG 548	Business Communication	5
ACC 554	Accounting	16
BM 552	Business Machines	3
TYP 548	Typewriting	3
		30

R.I.A. Option

Students enrolled in the commercial accounting program may be recommended for transfer to a special R.I.A. program after an initial 8 week period. Such recommendation by the instructors is based on performance and interest in accounting.

A minimum period of 20 weeks is required to complete the program. Subjects covered include accounting, business mathematics, economics, and report writing.

Graduates of this program may write final first year R.I.A. examinations in these subjects upon successful completion of the program. There are additional fees for text material and examinations.

PROGRAM: COMMERCIAL CLERICAL
LOCATION: Terauley Campus
LENGTH: 40 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Acceptable standing in English language

GBC CODE: B 552
FEE: $6.25 per week

This program offers the student a variety of general office functions. The graduate is prepared for a position as a clerk typist or a general clerical worker. The inclusion of bookkeeping and business machines develops the necessary skills for a variety of bookkeeping jobs.

		Periods per week
BOK 552	Bookkeeping or Clerical Business Practice	5
TYP 552	Typewriting and Office Practice	15
ENG 546	Business Communication	5
BM 552	Business Machines	5
		30

PROGRAM: COMMERCIAL DICTA-TYPIST
LOCATION: Terauley Campus
LENGTH: 40 Weeks
CERTIFICATION: Certificate
PREREQUISITE: English language standing above the average

GBC CODE: B 558
FEE: $6.25 per week

This program offers students an opportunity to acquire skills in dicta-typing, typewriting, office practice, and a knowledge of business English which will equip them to fill dicta-typist positions in business, government, and the medical and legal professions.

		Periods per week
TYP 549	Typewriting and Office Practice	13
ENG 549	Business Communication	5
OP 514	Office Practice	
DIC 505	Dictaphone (after 45 wpm acquired in typing)	12
		30

PROGRAM: COMMERCIAL REFRESHER
LOCATION: Terauley Campus
LENGTH: 16 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Previous commercial training and work experience

GBC CODE: B 556
FEE: $6.25 per week

This program is designed for the student with a good background in commercial training and experience, but who has not used this training for some years. Its purpose is to redevelop skills and knowledge for immediate employment.

		Periods per week
BM 556	Business Machines OR	
DIC 505	Dictaphone	5
ENG 556	Business Communication	5
TYP 556	Typewriting and Office Practice	20
		30

PROGRAM: COMMERCIAL STENOGRAPHIC — GBC CODE: B 545
LOCATION: Terrauley Campus — FEE: $6.25 per week
LENGTH: 40 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Acceptable standing in English language (Grade 10 Ontario approximately)

This program offers students an opportunity to acquire skills in shorthand, typewriting and office practice, and a knowledge of business English, which will equip them for stenographic and secretarial positions. The major objectives are 50 - 55 wpm in typing, and 80 - 120 wpm in shorthand.

		Periods per week
TYP 549	Typewriting and Office Practice	15
ENG 549	Business Communication	5
SH 549	Shorthand	10
		30

PROGRAM: ELECTRONIC DATA PROCESSING I KEYPUNCH AND VERIFIER — GBC CODE: B 57D
LOCATION: Terrauley Campus — FEE: $6.25 per week
LENGTH: 8 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Good working knowledge of the English language; aptitude test; typing speed of 35 wpm on a 10 minute timing

The purpose of this program is to train keypunch operators to such a level of proficiency that they graduate directly into positions in the field. The objective is a minimum of 10,000 strokes per hour.

		Periods per week
EDP 570	Keypunch	30

PROGRAM: INVENTORY CONTROL - WAREHOUSEMAN — GBC CODE: B 555
LOCATION: Terrauley Campus — FEE: $6.25 per week
LENGTH: 24 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10 or equivalent

This program prepares students for entry into the following fields of employment (as related to stores and warehousing in industry):
setting up inventory control kardex systems, ordering raw materials and finished assemblies, balancing inventories, shipping and receiving, and warehousing.

		Periods per week
INV 555	Inventory Control and Warehousing	15
TYP 555	Typewriting	5
BM 552	Business Machines	5
BOK 552	Bookkeeping	5
		30

PROGRAM: STENOGRAPHIC REFRESHER — GBC CODE: B 575
LOCATION: Terrauley Campus — FEE: $6.25 per week
LENGTH: 12 Weeks
CERTIFICATION: Certificate
PREREQUISITE: English language standing above the average; prior shorthand and typing skills in the stenographic field

To enable former stenographers to regain skills to prepare for employment.

The division of six hours per day between the two courses of typing and shorthand is made according to the individual student's ability and requirements.

		Periods per week
TYP 558	Typing	15
SH 575	Shorthand	15
		30

PROGRAM: TYPING REFRESHER — GBC CODE: B 574
LOCATION: Terrauley Campus — FEE: $6.25 per week
LENGTH: 12 Weeks
CERTIFICATION: Certificate
PREREQUISITE: previous experience in typing; current typing skill of 15 - 20 wpm minimum

To enable former trained typists to regain earlier skills to prepare for employment.

		Periods per week
TYP 558	Typing and Office Practice	20
ENG 556	Business Communication	5
BM 558	Business Machines	5
		30

PROGRAM: DESIGN TECHNICIAN - ELECTRICAL
LOCATION: Casa Loma Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Grade 12, but must include Mathematics, Sciences and English

GBC CODE: EL 101
FEE: $295 per year

This program offers the drafting skills combined with an adequate theoretical base, practical knowledge, and workshop competence to provide a background for the electrical design technician. Electrical design technicians are employed by local, provincial and federal government departments, municipal and provincial hydro-electric systems, manufacturing companies, consulting engineering firms, and construction companies.

Semester I (15 weeks)		Periods per week
EL 111	Electrical Fundamentals	8
EL 113	Electronic Fundamentals	2
EL 114	Electrical Drafting I	3
EL 115	Applied Circuit Analysis I	4
EL 116	Electrical Laboratory I	6
ENG 100	Language and Communications	2
INST 108	Instrumentation Fundamentals	5
		30

Semester II (19 weeks)		Periods per week
EL 121	Direct Current Machines	5
EL 122	Electrical Circuits	5
EL 123	Electrical Drafting II	4
EL 124	Applied Circuit Analysis IIA	4
EL 126	Electrical Control Systems	2
EL 125	Electrical Laboratory IIA	6
ENG 100	Language and Communications	2
MECH 103	Mechanics and Mechanisms	4
		32

Semester III (15 weeks)		Periods per week
EL 241	Industrial Electronic Control Systems	10
EL 237	Electrical Drafting III	4
EL 238	Electrical Laboratory IIIA	6
EL 244	Wiring Methods and Code	3
MATH 200	Mathematics	5
ENG 200	Language and Communications	2
		30

Semester IV (17 weeks)		Periods per week
EL 247	Electrical Design Applications	16
EL 248	Architectural and Mechanical Blue Print Reading and Drafting	3
EL 249	Electrical Specification Writing	2
MATH 200	Mathematics	4
ENG 200	Language and Communications	2
EL 245	Introduction to Computer Programming	4
		31

PROGRAM: ELECTRICAL TECHNICIAN
LOCATION: Casa Loma Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Grade 12, but must include Mathematics, Sciences and English

GBC CODE: EL 102
FEE: $295 per year

This program is designed to provide the theory, skills and knowledge of industrial practices required of an electrical technician. The areas of specialization are electrical apparatus and industrial electronics systems. Opportunities for employment are found in the fields of electrical generation and distribution, communications, manufacturing, and building. Graduates are employed as draftsmen, servicemen, operators, and inspectors.

Semester I (15 weeks)		Periods per week
EL 111	Electrical Fundamentals	8
EL 113	Electronic Fundamentals	2
EL 114	Electrical Drafting I	3
EL 115	Applied Circuit Analysis I	4
EL 116	Electrical Laboratory I	6
ENG 100	Language and Communications	2
INST 108	Instrumentation Fundamentals	5
		30

Semester II (19 weeks)		Periods per week
EL 121	Direct Current Machines	5
EL 122	Electrical Circuits	5
EL 123	Electrical Drafting II	4
EL 124	Applied Circuit Analysis IIA	4
EL 127	Electrical Laboratory IIA	6
EL 126	Electrical Control Systems	2
ENG 100	Language and Communications	2
MECH 103	Mechanics and Mechanisms	4
		32

Semester III (15 weeks)		Periods per week
EL 237	Electrical Drafting III	4
EL 238	Electrical Laboratory IIIA	6
EL 241	Industrial Electronic Control Systems	10
EL 244	Wiring Methods and Code	3
ENG 200	Language and Communications	2
MATH 200	Mathematics	5
		30

Semester IV (17 weeks)		Periods per week
EL 234	Electrical Distribution Systems	5
EL 242	Electrical Apparatus	5
EL 243	Electrical Drafting IVA	4
EL 245	Introduction to Computer Programming	1
EL 246	Electrical Laboratory IVA	6
EL 125	Electrical Environmental Systems	3
ENG 200	Language and Communications	2
MATH 200	Mathematics	4
		30

PROGRAM: ELECTRICAL TECHNOLOGIST
LOCATION: Casa Loma Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Grade 12, but must include Mathematics, Sciences and English

GBC CODE: EL 106
FEE: $295 per year

This program is designed to provide the theory, skills and knowledge of industrial practices required of an electrical technologist. The program is comprised of two 15 week modules, four 13 week modules and two 4 week modules. Employment opportunities exist in engineering, electrical power distribution, technical sales and manufacturing.

Semester I (15 weeks)		Periods per week
EL 111	Electrical Fundamentals	8
EL 113	Electronic Fundamentals	2
EL 114	Electrical Drafting I	3
EL 115	Applied Circuit Analysis I	4
EL 116	Electrical Laboratory I	6
ENG 100	Language and Communications	2
INST 108	Instrumentation Fundamentals	5
		30

Semester II (15 weeks)		Periods per week
EL 121T	Direct Current Machines	5
EL 122T	Electrical Circuits	6
EL 123T	Electrical Drafting II	4
EL 124T	Applied Circuit Analysis IIB	5
EL 125T	Electrical Laboratory IIB	6
ENG 100	Language and Communications	2
MECH 103T	Mechanics and Mechanisms	4
		31

Semester III (15 weeks)		Periods per week
EL 231T	Electrical Control Systems	3
EL 232T	Alternating Current Machines	9
EL 233T	Blue Print Reading	2
EL 234T	Electrical Laboratory IIIB	8
MATH 200T	Mathematics	5
EL 235T	Computer Programming	3
		30

Semester IV (15 weeks)		Periods per week
EL 241T	Electrical Distribution Systems	5
EL 243T	Protection of Electrical Equipment	5
EL 244	Wiring Methods and Code	3
EL 245T	Electrical Drafting III	4
EL 246T	Electrical Laboratory IVB	6
MATH 300	Mathematics	5
ENG 200	Language and Communications	2
		30

PROGRAM: ELECTRICAL TECHNOLOGIST (cont'd)

Semester V (15 weeks)

			Periods per week
EL	351	Industrial Electronic Control Systems	9
EL	352	Electrical Environmental Systems	3
EL	353	Electrical Drafting IV	4
EL	554	Electrical Laboratory VB	8
MATH	400	Mathematics	5
ENG	200	Language and Communications	2
			31

Semester VI (15 weeks)

			Periods per week
EL	362	Electronic Instruments	4
EL	363	Servo Controls	6
EL	364	Machine Design (Electrical)	8
EL	365	Electrical Estimating	4
PHY	200	Modern Physics	5
		Engineering Economics	4
			31

The College will review the student's progress at the end of the first semester to determine his suitability for further technology training. For those not qualifying, the College reserves the right to transfer the student to the second semester of the Electrical Technician program.

PROGRAM: ELECTRONICS GENERAL — GBC CODE: EL 541
LOCATION: Teraulay Campus — FEE: $6.25 per week
LENGTH: 1 Year (48 weeks)
CERTIFICATION: Certificate
PREREQUISITE: Ontario Secondary School Grade 10 or its equivalent

The theory in this program is developed so that the principles involved in various circuits, modules and systems can be applied to all types of electronic equipment, both domestic and commercial. To complement the theory, practical sessions in the laboratory are given on domestic equipment such as the radio, television, hi-fi, and the record changer. With this background, the graduate is equiped to work effectively as a service technician in all electronic manufacturing companies, retail radio and television stores, and in the small radio and television repair shop.

Semester I

		Periods per week
ELTC 530	Electrical and Electronic Fundamentals	5
ELTC 531	Semi-Conductors Devices and Circuits	4
ELTC 532	Radio, Hi-Fi and Sound Systems	4
ELTC 533	Fundamentals Laboratory	5
ELTC 540	Passive Circuit Analysis	1
ELTC 541	Audio Principles	2
ELTC 542A	Basic Construction Techniques and Mechanics	2
ENG 530	Language and Communications	2
		25

Semester II

		Periods per week
ELTC 534	Pulse and Digital Circuits	4
ELTC 535	Television Receiver Circuits and Systems	5
ELTC 536	Colour Television and F.M. Multiplex	5
ELTC 537	Radio and Television Laboratory	5
ELTC 544	Video Principles	1
ELTC 545	Active Circuit Analysis	1
ELTC 542B	Basic Construction Techniques	2
ENG 530	Language and Communications	2
		25

PROGRAM: COLOUR TELEVISION — GBC CODE: EL 571
LOCATION: Teraulay Campus — FEE: $6,25 per week
LENGTH: 10 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Good background training and experience in electronics with some exposure to black and white T.V.

Graduates from this program have prepared themselves for employment in the T.V. repair fields, either in the small shop as service technicians or in the factory as troubleshooters.

		Periods per week
ELTC 531	Semi-Conductors Devices and Circuits (includes parts from ELTC 534)	6
ELTC 536	Colour Television and F.M. Multiplex (includes parts from ELTC 532)	10
ELTC 537	Radio and Television Laboratory	9
		25

PROGRAM: ACOUSTICS TECHNICIAN
LOCATION: Terrauay Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Grade 12

GSC CODE: EL 104
FEE: $295 per year

This course is designed to train students in principles of acoustic design, the techniques of sound and analysis, modern practices of noise control and hearing conservation. In general, the specialization phase of this (2nd Year) is designed to fit the graduate into the consulting engineering office or the architect's office in the acoustics and vibration control sections. Also, the graduate will fit into the sales organization of those firms specializing in noise abatement materials and procedures, and to some degree into the audio recording field as a sound technician.

Semester I (15 weeks)		Periods per week
ELTC 106	Electrical Fundamentals I	1
ELTC 107	Electrical Fundamentals II	1
ELTC 100	Electronics Fundamentals I	1
ELTC 101	Electrical Fundamentals Advanced	5
ELTC 120	Drafting Fundamentals I	3
ENG 100	Language and Communications	2
INST 108	Instrumentation Fundamentals	4
BUS 101	Human Relations	2
ELTC 111A	Applied Circuit Analysis	3
ELTC 111L	Applied Circuit Analysis Laboratory	1
ELTC 112A	Laboratory	8
		31

Semester II (19 weeks)		Periods per week
ELTC 102	Electronic Fundamentals Advanced	3
ELTC 103	Amplifiers and Devices	3
ELTC 108	AM/FM Receivers	3
ELTC 105	T.V. Principles	3
ELTC 111B	Applied Circuit Analysis II	3
ELTC 111L	Applied Circuit Analysis Laboratory	1
ELTC 121	Drafting Fundamentals II	2
ENG 100	Language and Communications	2
ELTC 112B	Laboratory	9
ELTC 203	Computer Aided Design	2
		31

Semester III (17 weeks)		Periods per week
ACOU 200	Environmental Acoustics	3
ACOU 201A	Sound and Vibration Analysis	2
ACOU 211A	Noise Control I	2
ACOU 213A	Acoustics Laboratory	6
ACOU 214A	Acoustic Systems Design	4
ELTC 211	Audio Principles	3
ELTC 218	Electronic Systems and Measurement	3
MATH 201	Mathematics	3
ENG 200	Language and Communications	2
ELTC 217	Electronic Laboratory	3
		31

PROGRAM: ACOUSTICS TECHNICIAN (cont'd)

Semester IV (17 weeks)		Periods per week
ACOU 201B	Sound and Vibration Analysis	5
ACOU 211B	Noise Control II	5
ACOU 213B	Acoustics Laboratory	10
ACOU 214B	Acoustic System Design	3
MATH 202	Mathematics	3
ENG 201	Language and Communications	2
BUS 100	Business Organization	2
ELTC 299	Technical Report	0
		30

PROGRAM: ELECTRONICS TECHNICIAN
LOCATION: Teraulay Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Diploma, but must include Grade 12 Mathematics and English

GBC CODE: EL 103
FEE: $295 per year

This course is designed to provide Engineering Technicians to work in the maintenance, installation, production, design, or research phases of the Electronics industry. In order to better qualify the student of this course for immediate productive work in industry upon graduation, the course has been designed about a common first year and a second year that allows the student to specialize in an area of greatest interest to him. The areas of specialization are: Communications, Computers, ETV/TV Broadcast, and Acoustics. Graduates of this course are now employed in research and engineering, departments of government and industry, in utility companies, in radio and television broadcasting, in closed circuit television studios, in the oil industry, and in computer and communications systems installation.

Semester I (15 weeks)

		Periods per week
ELTC 106	Electrical Fundamentals I	1
ELTC 107	Electrical Fundamentals II	1
ELTC 100	Electronic Fundamentals I	1
ELTC 101	Electrical Fundamentals Advanced	5
ELTC 120	Drafting Fundamentals I	3
ENG 100	Language and Communications	2
INST 108	Instrumentation Fundamentals	4
BUS 101	Human Relations	2
ELTC 111A	Applied Circuit Analysis	3
ELTC 111L	Applied Circuit Analysis Laboratory	1
ELTC 112A	Laboratory	8
		31

Semester II (19 weeks)

		Periods per week
ELTC 102	Electronic Fundamentals Advanced	3
ELTC 103	Amplifiers and Devices	3
ELTC 108	AM/FM Receivers	3
ELTC 105	T.V. Principles	3
ELTC 111B	Applied Circuit Analysis II	3
ELTC 121	Drafting Fundamentals II	2
ENG 100	Language and Communications	2
ELTC 112B	Laboratory	9
ELTC 203	Computer Aided Design	2
ELTC 111L	Applied Circuit Analysis Laboratory	1
		31

Semester III (17 weeks)

		Periods per week
ELTC 207	Advanced Semi-Conductors Devices	4
ELTC 208	Pulse Circuit	4
ELTC 209	Laboratory	8
ELTC 213	Communication Principles	3
ELTC 211	Audio Principles	3
ELTC 212	Video Principles	3
MATH 201	Mathematics	4
ENG 200	Language and Communications	2
		31

PROGRAM: ELECTRONICS TECHNICIAN (cont'd)

Semester IV (17 weeks)

		Periods per week
ELTC 210	Digital Principles	3
ELTC 209B	Laboratory	9
MATH 202	Mathematics	3
MECH 202	Mechanisms	4
ELTC 299	Technical Report	0
ENG 200	Language and Communications	2
BUS 100	Business Organization	3
	AREAS OF SPECIALIZATION	7
ELTC 215	Communications Systems	
ELTC 216	Computer Systems	
ELTC 219	ETV/TV Broadcast Maintenance Systems	
ELTC 220	Telecommunications	
		31

PROGRAM: ELECTRONICS TECHNOLOGIST
LOCATION: Teraulay Campus
LENGTH: 2 Years (6 semesters)
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Diploma, but must include Grade 12 Mathematics and English

GBC CODE: EL 105
FEE: $295 per year

This course is designed to provide Engineering Technologists with a practical and theoretical knowledge that will enable them to work in any area of Electronics. The Technologist usually works on his own initiative but under the general supervision of an engineer or senior technologist. The course provides the student with advanced knowledge of electronics based on quantitative analysis of electronic circuits and systems. Graduates are employed in many fields: design and construction of equipment; maintenance, repair and installation of systems (computers, communications, etc.); and management, marketing or research. Therefore, because of the depth of knowledge required by the Technologist, the College will review the student's progress at the end of the first semester to determine his suitability for further technological training. For those not qualifying, the College reserves the right to transfer the student to the second semester Electronics Technician program.

Semester I (15 weeks)		Periods per week
ELTC 106	Electrical Fundamentals I	1
ELTC 107	Electrical Fundamentals II	1
ELTC 100	Electronics Fundamentals I	1
ELTC 101	Electrical Fundamentals Advanced	5
ELTC 120	Drafting Fundamentals I	3
INST 108	Instrumentation Fundamentals	4
ENG 100	Language and Communications	2
ELTC 111A	Applied Circuit Analysis I	3
ELTC 111L	Applied Circuit Analysis Laboratory	1
ELTC 112A	Laboratory	8
BUS 101	Human Relations	2
		31

Semester II (15 weeks)		Periods per week
ELTC 102T	Electronic Fundamentals Advanced	6
ELTC 103T	Amplifiers and Devices	9
ELTC 104	Advanced Transistors	6
ELTC 121T	Drafting Fundamentals II	3
ENG 101	Language and Communications	2
MATH 102T	Mathematics	3
ELTC 111T	Applied Circuit Analysis	1
ELTC 111L	Applied Circuit Analysis Laboratory	1
		31

Semester III (15 weeks)		Periods per week
ELTC 200	AM/FM Receiver Technology	6
ELTC 201	Wave Shaping and Control Devices	7
ELTC 202	Logic Systems	7
MATH 201T	Mathematics	5
PHYS 201T	Physics	3
ENG 200T	Language and Communications	2
		30

PROGRAM: ELECTRONICS TECHNOLOGIST (cont'd)

Semester IV (15 weeks)		Periods per week
ELTC 203T	Computer Aided Instruction	4
ELTC 204	Operational Amplifier Design	8
ELTC 205	Communication Technology I	8
ELTC 304A	System Design Principle Part I	1
MATH 202T	Mathematics	5
PHYS 202T	Physics	3
ENG 201T	Language and Communications	2
		31

Semester V (15 weeks)		Periods per week
ELTC 300	Pulse Technology	8
ELTC 301	Communication Technology II	8
ELTC 302	Computer Technology	8
MATH 301T	Mathematics	5
ENG 300T	Report Writing	2
		31

Semester VI (15 weeks)		Periods per week
ELTC 303	Automatic Controls Systems	9
ELTC 304B	Systems Design Principles Part II	6
ELTC 305	Electronic Mechanical Design Principles	3
ELTC 306	Component Technology	5
BUS 100	Business Organization	3
MECH 302T	Mechanics and Mechanisms	4
ELTC 399	Technologist Report	0
		30

PROGRAM: BLUEPRINT READING FOR WELDERS — GBC CODE: EN 576
LOCATION: Casa Loma Campus — FEE: $6.25 per week
LENGTH: 16 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 8 or equivalent

This program was developed specifically for the welder wishing to broaden his employment capability. Upon completion of the program, the welder will know the basic language of drafting for welding details and assembly drawings, and will have gained experience in pattern developments, welding symbols, and dimensioning procedures. The reading of up-to-date blueprints is extensively practised throughout this program.

		Periods per week
ENDR 559	Blueprint Reading	18
MATH 515	Mathematics	4
ENG 515	Language and Communications	3
		25

PROGRAM: BUSINESS EQUIPMENT SERVICING — GBC CODE: EN 541
LOCATION: Casa Loma Campus — FEE: $6.25 per week
LENGTH: 48 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Secondary School Graduation Diploma (prefer) or Ontario Grade 10 and satisfactory completion of specified aptitude tests or equivalent

This program is designed to provide theoretical and practical knowledge of manual and electric typewriters, electric and electronic calculators and figuring machines, and photocopy and dictating machines.

A business machine representative analyses and solves problems that occur on business equipment, and assists customers to operate machines in a proper manner. The prospective representative should display a good mechanical aptitude, be neat and presentable, and be able to co-operate with other people. He should possess a current driving licence.

Since machines are increasing in number and in complexity, prospects in this occupation are excellent for the man who is ambitious and capable of working with a minimum of supervision.

Semesters I and II

		Periods per week
BES 500	Typewriters	10
BES 501	Figuring Machines	8
BES 502	Photocopying Machines	2
BES 503	Dictating Machines	1
ELTC 530	Electrical and Electronic Fundamentals	2
MATH 531	Mathematics	2
ENG 530	Language and Communications	2
		27

Semester III

		Periods per week
ELTC 540	Logic Fundamentals	11
ELTC 541	Fundamentals Laboratory	1
ELTC 542	Business Machines	9
		21

PROGRAM: COATINGS TECHNICIAN
LOCATION: Casa Loma Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent; physics and chemistry would be desirable

GBC CODE: EN 109
FEE: $295 per year

Painting in Canada is a multi-million dollar endeavor; an advanced technology that involves household paints, lacquers and varnishes, as well as automotive, airplane and space vehicle finishes that must withstand extreme variations of conditions, and coatings for the can industry which prevent food from spoiling.

Because of specialized developments and applications, George Brown College is offering a two year program in paints and coatings technology. Established in conjunction with the coatings industry, the program deals with polymer chemistry, resins, pigments, solvents, chemical additives, formulation testing, and application techniques of trade sales, industrial and specialty coatings. When you graduate, you will be able to find employment in sales, production, technical development, and junior management in such industries as paints, inks, plastics, textile, adhesives, wallpaper, flooring, and powder coatings. All you need to apply is the equivalent of an Ontario Secondary School Graduation Diploma with mathematics, physics and chemistry options.

The uses of organic coatings are almost unlimited and, with industrial developments occurring daily, the demands for new finishes and technicians will be even greater in the years to come.

Semester I (First Year)

		Periods per week
CHEM 110	Chemistry	3
MATH 100	Mathematics	5
PHYS 110	Physics	2
ENG 100	Language and Communications	3
ENDR 105	Drafting	3
EC 112	Business Organization	1
CHEM 113	Organic Chemistry	3
COAT 100	Basic Coatings Technology and Theory	3
COAT 101	Coatings - Laboratory	4
PL 100	Thermoplastics	3
		30

Semester II (First Year)

		Periods per week
CHEM 110	Chemistry	3
MATH 100	Mathematics	3
PHYS 110	Physics	2
ENG 100	Language and Communications	3
PL 100	Thermoplastics	3
ENDR 105	Drafting	3
EC 112	Business Organization	1
CHEM 111	Analytical Chemistry	3
COAT 100	Basic Coatings Technology	3
COAT 101	Coatings - Laboratory	4
MATH 120	Applied Computer Programming	2
		30

PROGRAM: COATINGS TECHNICIAN (cont'd)

Semester III (Second Year)

		Periods per week
CHEM 210	Polymer Chemistry	4
MATH 200	Mathematics	4
PHYS 210	Physics	2
ENG 200	Language and Communications	3
EC 212	Business Organization	1
COAT 202	Thermoplastic Resins	3
COAT 203	Thermoset Resins	2
COAT 201	Coatings Laboratory	6
COAT 200	Coatings Technology	3
CHEM 203	Organic Chemistry Laboratory	2
		30

Semester IV (Second Year)

		Periods per week
CHEM 210	Polymer Chemistry	4
MATH 200	Mathematics	4
PHYS 210	Physics	2
ENG 200	Language and Communications	3
EC 212	Business Organization	1
COAT 202	Thermoplastic Resins	3
COAT 203	Thermoset Resins	2
COAT 201	Coatings Laboratory	6
COAT 200	Coatings Technology	3
CHEM 212	Industrial Chemistry	2
		30

PROGRAM: INDUSTRIAL INSTRUMENTATION MECHANIC
LOCATION: Kensington Campus
LENGTH: 40 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10 or equivalent

GBC CODE: EN 542
FEE: $6.25 per week

The industrial instrumentation mechanic program operates under the individualized learning concept. This means that a student is allowed to progress at his own learning rate in order to achieve the program objective. Student intakes are continuous.

Instrument mechanics are employed in all phases of industry, particularly in the construction of new plants. Instrument mechanics install, calibrate and maintain all types of pneumatic and electronic process instruments.

PROGRAM: INDUSTRIAL INSTRUMENTATION MECHANIC (cont'd)

		Periods per week
INST 530	Pressure Measurement	1
INST 530	Flow Measurement	2
INST 530	Level Measurement	1
INST 530	Temperature Measurement	2
INST 530	Pneumatic Theory and Instruments	2
INST 530	Pneumatic Instrument Application	2
INST 530	Control Theory and Systems	2
ENG 530	Language and Communications	1
ENDR 537	Applied Drawing	2
INST 531	D.C. Theory	1
INST 531	A.C. Theory	1
INST 531	Transistor and Electron Tube Theory	1
INST 531	Electronic Circuits	1
INST 531	Electrical and Electronic Instruments	2
INST 531	Electrical and Electronic Instrument Application	2
INST 532	Valves	2
INST 532	Mechanical Practices	2
MATH 532	Mathematics	2
INST 533	Analytical Instrumentation	2
		31

PROGRAM: INDUSTRIAL INSTRUMENTATION TECHNICIAN GBC CODE: EN 101
LOCATION: Kensington Campus FEE: $295 per year
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: O.S.S.G.D. or equivalent; mathematics and physics at senior level desirable

Industrial instrumentation represents one of the key areas in the field of automation.

Instrumentation technicians are employed in all phases of industry that utilize automatic controls.

Successful candidates of the first semester may make application to enter the Industrial Instrumentation technology program.

Semester I

		Periods per week
INST 103	A.C. - D.C. Theory and Laboratory	8
INST 102	Piping and Instrument Laboratory Techniques	4
INST 108	Instrumentation Fundamentals	6
MATH 100	Mathematics	4
ENDR 105	Technical Drawing	4
ENG 100	Language and Communications	2
MECH 102	Machines and Dynamics	4
		32

PROGRAM: INDUSTRIAL INSTRUMENTATION TECHNICIAN (cont'd)

Semester II

		Periods per week
INST 100	Measuring Principles	6
INST 101	Electronic Instrumentation	6
INST 106	Electronics Theory and Laboratory	6
MATH 100	Mathematics	4
ENG 100	Language and Communications	2
PHYS 100	Applied Physics	4
ENDR 105	Technical Drawing	4
		32

Semester III

		Periods per week
INST 200	Automatic Control Principles I	8
INST 201	Final Control Elements	6
INST 204	Applied Solid State Electronics	6
MATH 200	Mathematics	4
EC 100	Economics	2
ENG 200	Language and Communications	2
CHEM 100	Applied Chemistry	2
ENDR 208	Instrumentation Drafting (Optional)	5
		35

Semester IV

		Periods per week
INST 202	Analytical and Environmental Instrumentation	6
INST 203	Computer Control Principles I	8
INST 204	Applied Solid State Electronics	6
MATH 200	Mathematics	4
EC 100	Economics	2
ENG 200	Language and Communications	2
CHEM 100	Applied Chemistry	2
ENDR 208	Instrumentation Drafting (Optional)	5
		35

PROGRAM: INDUSTRIAL INSTRUMENTATION TECHNOLOGIST GBC CODE: EN 114
LOCATION: Kensington Campus FEE: $295 per year
LENGTH: 2 Years (6 Semesters)
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent; physics and mathematics desired at senior level

The instrumentation technologists' role in industry is primarily in design and systems modification. Job opportunities range from challenging positions in research and development to positions in sales and service for instrument manufacturers.

Semester I

		Periods per week
INST 102	Piping and Instrument Laboratory Techniques	4
INST 103	A.C. - D.C. Theory and Laboratory	8
INST 108	Instrumentation Fundamentals	6
MATH 100	Mathematics	4
ENDR 105	Technical Drawing	4
ENG 100	Language and Communications	2
MECH 102	Machines and Dynamics	4
		32

PROGRAM: INDUSTRIAL INSTRUMENTATION TECHNOLOGIST (cont'd)

Semester II		Periods per week
INST 100	Measuring Principles	6
INST 101	Electronic Instrumentation	6
INST 106	Electronics Theory and Laboratory	6
MATH 100	Mathematics	4
ENG 100	Language and Communications	2
PHYS 100	Applied Physics	4
ENDR 105	Technical Drawing	4
		32

Semester III		Periods per week
INST 104	Telemetering	4
INST 107	Electrical Fixed Logic Laboratory	4
INST 109	Systems Design and Fabrication	16
MATH 200T	Mathematics	4
		30

Semester IV		Periods per week
INST 200	Auto Controls Principles I	8
INST 201	Final Control Elements	6
INST 204	Applied Solid State Electronics	6
MATH 200T	Mathematics	4
EC 100	Economics	2
PHYS 200	Modern Physics	2
CHEM 100	Physical Chemistry	2
ENG 200	Language and Communications	2
ENDR 208	Instrumentation Drafting (Option)	5
		37

Semester V		Periods per week
INST 202	Analytical and Environmental Instrumentation	6
INST 203	Computer Control Principles I	8
INST 204	Applied Solid State Electronics	6
MATH 200	Mathematics	4
EC 100	Economics	2
PHYS 200	Modern Physics	2
CHEM 200	Organic and Inorganic	2
ENG 200	Language and Communications	2
ENDR 208	Instrumentation Drafting (Option)	5
		37

Semester VI		Periods per week
INST 300	Automatic Control Principles II	9
INST 301	Computer Control Principles II	9
INST 302	Systems Design and Construction	4
CHEM 300	Industrial Chemistry	4
MATH 300	Mathematics	4
		30

PROGRAM: LATHE OPERATOR
LOCATION: Casa Loma Campus
LENGTH: 12 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10 or equivalent

GBC CODE: EN 575
FEE: $6.25 per week

This program is designed to prepare students for entry into industry as lathe operators. Persons who have completed Grade 12 and have an interest in the machine tool industry will find this program most suitable as preparation for initial employment as a toolroom or production lathe hand.

MACH 537	Small Tools and Measurement	1
MACH 538	Lathe and Ancillary Equipment	21
ENDR 570	Blueprint Reading	4
MATH 533	Mathematics	4
		30

PROGRAM: MACHINE SHOP PRACTICE
LOCATION: Casa Loma Campus
LENGTH: 1 Year (40 Weeks)
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10 or equivalent

GBC CODE: EN 544
FEE: $200

This program is designed to prepare students for entry into industry as machinists, apprentices, or machine operators. The category in which a student finds employment depends upon his age, previous experience, and the levels of skill and knowledge he has acquired. Students find it advantageous to have completed Grade 12 in machine shop but, with suitable aptitudes and a willingness to work hard, those who have completed Grade 10 may prove successful in the program and later become good machinists.

Instruction is particularly concerned with measurement and machining to close tolerances, combined with production speeds and efficiencies of manufacture, sharpening cutting tools, and setting up machines.

Semester I		Periods per week
MACH 540	Benchwork	6
MACH 541	Lathework	7
MACH 542	Milling and Shaping	6
MACH 545	Numerical Control	1
ENDR 574	Blueprint Reading	4
MET 532	Metallurgy	2
MATH 536	Mathematics	2
ENG 530	Language and Communications	2
		30

Semester II		Periods per week
ENDR 574	Blueprint Reading	4
ENG 530	Language and Communications	2
MACH 540	Benchwork	3
MACH 541	Lathework	6
MACH 542	Milling and Shaping	6
MACH 543	Grinding	4
MACH 545	Numerical Control	1
MATH 536	Mathematics	2
WELD 545	Welding	2
		30

PROGRAM: MATERIALS HANDLING DESIGN
LOCATION: Casa Loma Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: O.S.S.G.D. or equivalent

GBC CODE: EN 107
FEE: $295 per year

Employment opportunities, increasing automation, and the application of modern packaging and handling techniques resulted in the development of the specialized field of materials handling design. The plant layouts, estimates, schematics, assembly, and detail drawings of handling equipment and systems are produced by designers and draftsmen trained in the many facets of materials handling design. This program provides the student with theoretical and practical knowledge sufficient to enable him to enter the materials handling design field. Graduates may be employed as draftsmen, designers, salesmen, estimators, or planners by processing and manufacturing plants, consulting engineers, primary industries, and research and development companies.

Semester I (First Year)		Periods per week
ENDR 118	Descriptive Geometry	3
ENDR 158	Drafting and Design	12
MATH 100	Mathematics	5
ENG 100	Language and Communications	2
MECH 100	Mechanics	3
MET 100	Metallurgy	2
MACH 110	Workshop Technology	4
		31

Semester II (First Year)		Periods per week
ENDR 118	Descriptive Geometry	3
ENDR 123	Engineering Drawing and Design	10
ENDR 115	Structural Drafting	3
MECH 110	Mechanics	3
MATH 100	Mathematics	3
ENG 100	Language and Communications	2
MET 100	Metallurgy	2
MACH 110	Workshop Technology	4
MATH 120	Applied Computer Programming	2
		32

Semester III (Second Year)		Periods per week
ENDR 212	Plant Layout and Handling Design	10
ENDR 222	Descriptive Geometry	4
MECH 110	Mechanics of Materials	2
ENDR 250	Industrial Engineering	2
MATH 200	Mathematics	4
ENG 200	Language and Communications	2
EL 106	Electrical and Electronic Fundamentals	4
PHYS 100	Physics	2
		30

Semester IV (Second Year)		Periods per week
ENDR 212	Plant Layout and Handling Design	10
ENDR 222	Descriptive Geometry	4
MECH 110	Mechanics of Materials	2
ENDR 250	Industrial Engineering	2
MATH 200	Mathematics	4
ENG 200	Language and Communications	2
INST 107	Applied Control Theory	4
PHYS 100	Physics	2
		30

PROGRAM: MECHANICAL DRAFTING DESIGN TECHNICIAN
LOCATION: Casa Loma Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent

GBC CODE: EN 105
FEE: $295 per year

Machines, mechanical devices, and products of greatly sophisticated design are characteristic of modern industry. The design drawings, schematics, detail drawings, and assembly drawings for these machines and products are drawn by mechanical design draftsmen. Through this program the student can gain the theoretical and practical knowledge that is required by draftsmen in manufacturing companies and other industrial organizations in the general mechanical field.

Graduates may be employed as draftsmen, designers, process planners, salesmen, or estimators by manufacturing industries, consulting engineers, and government.

Semester I (First Year)		Periods per week
ENDR 118	Descriptive Geometry	3
ENDR 158	Drafting and Design	12
MATH 100	Mathematics	5
ENG 100	Language and Communications	2
MECH 100	Mechanics	3
MET 100	Metallurgy	2
MECH 110	Workshop Technology	4
		31

Semester II (First Year)		Periods per week
ENDR 102	Machine Drawing and Design	10
ENDR 118	Descriptive Geometry	3
MATH 100	Mathematics	3
ENG 100	Language and Communications	2
MECH 100	Mechanics	3
MET 100	Metallurgy	2
ENDR 107	Kinematics	2
MACH 110	Workshop Technology	4
MATH 120	Applied Computer Programming	2
		31

Semester III (Second Year)		Periods per week
ENDR 201	Drawing and Product Design	10
ENDR 107	Kinematics	2
ENDR 222	Descriptive Geometry	4
MATH 200	Mathematics	4
MECH 110	Mechanics of Materials	2
EL 305	Machine Circuits and Apparatus	2
ENG 200	Language and Communications	2
ENDR 202	Manufacturing Processes	2
ENDR 255	Machine Tool Theory	4
		32

Semester IV (Second Year)		Periods per week
ENDR 201	Drawing and Product Design	10
ENDR 107	Kinematics	2
ENDR 222	Descriptive Geometry	4
ENDR 241	Tool Design Theory	2
EL 305	Machine Circuits and Apparatus	2
WELD 148	Welding	3
MATH 200	Mathematics	4
MECH 110	Mechanics of Materials	2
ENG 200	Language and Communication	2
		31

PROGRAM: MECHANICAL ENGINEERING DRAFTING
LOCATION: Casa Loma Campus
LENGTH: 1 Year
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10 or mature student status

GBC CODE: EN 560
FEE: $6.25 per week

The objective of this program is to prepare the student for employment as a junior draftsman in the general mechanical engineering field. The graduate will be competent in detail drawing, assembly drawing, freehand sketching, and the construction of engineering graphs and charts. He will gain acceptance in the drawing offices of manufacturing companies, consulting engineers, process piping engineers, tool design consultants, and materials handling engineers. The broad training is given so as to enable the graduate to fill other technical positions where competence in drawing is required, such as engineering office clerk, technical salesman, parts inspector, and production expediter.

A similar program is offered in Architectural Technology, AR 540.

Semester I		Periods per week
ENDR 500	Mechanical Drawing	8
ENDR 508	Descriptive Geometry	4
ENDR 509	Materials Handling	6
MACH 544	Machine Shop Practice	6
MATH 550	Mathematics	4
ENG 521	Language and Communications	2
		30

Semester II		Periods per week
ENDR 501	Machine Drawing	6
ENDR 508	Descriptive Geometry	4
ENDR 510	Process Piping	4
ENDR 511	Methods, Tooling and Materials	7
MACH 544	Machine Shop Practice	3
MATH 550	Mathematics	4
ENG 521	Language and Communications	2
		30

PROGRAM: OPERATOR - THERMOPLASTIC
LOCATION: Casa Loma Campus
LENGTH: 1 Semester
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10 with drafting

GBC CODE: EN 746
FEE: $135

This program deals with thermoplastic forming and fabricating.

		Periods per week
PL 731	Thermoplastic Materials	4
PL 734	Thermoplastic Processes	14
PL 737	Thermoplastic Design	8
CHEM 735	Chemistry	1
PHYS 735	Physics	1
ENG 741	Language and Communications	1
MATH 733	Mathematics	1
		30

PROGRAM: OPERATOR - THERMOSET (HAND LAY-UP)
LOCATION: Casa Loma Campus
LENGTH: 1 Semester
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10 with drafting

GBC CODE: EN 747
FEE: $135

		Periods per week
PL 732	Thermoset Materials	4
PL 735	Thermoset Processes	14
PL 738	Thermoset Design	8
CHEM 735	Chemistry	1
PHYS 735	Physics	1
ENG 741	Language and Communications	1
MATH 733	Mathematics	1
		30

PROGRAM: OPERATOR - THERMOSET (MACHINE MOULDING)
LOCATION: Casa Loma Campus
LENGTH: 1 Semester
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10 with drafting

GBC CODE: EN 748
FEE: $135

		Periods per week
PL 740	Thermoset Materials	4
PL 741	Thermoset Processes	14
PL 739	Thermoset Design	8
CHEM 735	Chemistry	1
PHYS 735	Physics	1
ENG 741	Language and Communications	1
MATH 733	Mathematics	1
		30

PROGRAM: ORTHOTIC-PROSTHETIC TECHNIQUES
LOCATION: Casa Loma Campus
LENGTH: 2 Years (Optional 3 Years)
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma of the 4 or 5 year program

GBC CODE: EN 110
FEE: $295 per year

The graduate of the two year orthotic-prosthetic techniques program will have a background in materials, fabrication, machine shop, and plastics, as well as anatomy physiology, pathology, related to artificial limbs and braces.

Semester I (First Year)		Periods per week
MED 100	Introductory Anatomy and Biomechanics	4
PROS 101	Materials and Laboratory Techniques	8
PL 125	Plastics	1
MACH 126	Machine Shop	4
ENDR 113	Technical Drawing	4
MECH 104	Mechanics	3
MET 100	Metallurgy	2
MATH 104	Mathematics	2
ENG 100	Language and Communications	2
WELD 147	Welding Techniques	2
		32

PROGRAM: ORTHOTIC-PROSTHETIC TECHNIQUES (cont'd)

Semester II (First Year)		Periods per week
MED 100	Introductory Anatomy and Biomechanics	4
PROS 101	Materials and Shop Techniques	7
PL 125	Plastics	2
MACH 126	Machine Shop	4
ENDR 113	Technical Drawing	4
MECH 104	Mechanics	3
MET 100	Metallurgy	2
MATH 104	Mathematics	2
ENG 100	Language and Communications	2
WELD 147	Welding	2
		32

Semester III (Second Year)		Periods per week
MATH 120	Computer Programming	2
MED 200	Intermediate Anatomy	2
MED 201	Introductory Physiology	2
MED 202	Introductory Pathology	1
PSY 202	Psychology	2
PROS 200	Orthotic and Prosthetic Techniques	13
MECH 114	Mechanics of Materials	2
PROS 203	Field Practice	6
EC 113	Business Organization	1
		31

Semester IV (Second Year)		Periods per week
MATH 120	Computer Programming	2
MED 200	Intermediate Anatomy	2
MED 201	Introductory Physiology	2
MED 202	Introductory Pathology	1
PROS 200	Orthotic and Prosthetic Techniques	13
MECH 114	Mechanics of Materials	2
PROS 203	Field Practice	6
EC 113	Business Organization	1
		29

The graduate of the third year program will have a background of anatomy, biomechanics, physiology, psychology, pathology, rehabilitation, cast-taking techniques, and prescription formulating. A further two years internship will be required, working in the field under the direction of a certified prosthetist and/or orthotist which will allow eligibility to write certification examinations.

PROGRAM: PLASTICS TECHNICIAN A
LOCATION: Casa Loma Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: O.S.S.G.D. or equivalent; chemistry and physics desirable

GBC CODE: EN 102
FEE: $295 per year

In Canada, the growth rate of the plastics industry is more than double the industrial average. Over 1,100 companies are engaged in plastics; more than 600 of these firms are in Ontario. This rapid expansion has created a strong demand for trained people in manufacturing, sales, quality control, research, and development.

Semesters I and II (First Year)		Periods per week
PL 100	Thermoplastic Materials	3
PL 103	Thermoset Materials	2
PL 110	Thermoplastic Processes	4
PL 113	Thermoset Processes	3
PL 120	Thermoplastic Design	1
PL 123	Thermoset Design	1
ENDR 105	Technical Drawing	3
CHEM 110	Chemistry	3
PHYS 110	Physics	2
ENG 100	Language and Communications	2
MATH 100	Mathematics	5
EC 112	Business Organization	1
MATH 120	Applied Computer Programming	2
		30

In Semester II, Mathematics 100 would be for 3 hours and Mathematics 120 (Computer Programming) for 2 hours per week.

Semesters III and IV (Second Year)		Periods per week
PL 200	Thermoplastic Materials	3
PL 203	Thermoset Materials	2
PL 210	Thermoplastic Processes	4
PL 211	Thermoset Processes	3
PL 220	Thermoplastic Design	3
PL 223	Thermoset Design	2
CHEM 210	Chemistry	4
PHYS 210	Physics	2
ENG 200	Language and Communications	2
MATH 201	Mathematics	4
EC 212	Business Organization	1
		30

PROGRAM: PLASTICS TECHNICIAN B - THERMOPLASTICS GBC CODE: EN 150
LOCATION: Casa Loma Campus FEE: $295
LENGTH: 1 Year
CERTIFICATION: Certificate
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent; physics and chemistry desirable

Semesters I and II		Periods per week
PL 100	Thermoplastic Materials	5
PL 200	Thermoplastic Materials	
PL 110	Thermoplastic Processes	7
PL 210	Thermoplastic Processes	
PL 120	Thermoplastic Design	5
PL 220	Thermoplastic Design	
CHEM 110	Chemistry	3
PHYS 110	Physics	2
ENG 100	Language and Communications	3
MATH 100	Mathematics	5
EC 112	Business Organization	1
		31

In Semester II, MATH 100 would be for 3 hours and MATH 120 (Computer Programming) for 2 hours per week.

PROGRAM: PLASTICS TECHNICIAN B - THERMOSETS GBC CODE: EN 149
LOCATION: Casa Loma Campus FEE: $295
LENGTH: 1 Year
CERTIFICATION: Certificate
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent; physics and chemistry desirable

In Canada, the growth rate of the plastics industry is more than double the industrial average. Over 1100 companies are engaged in plastics; more than 600 of these firms are in Ontario. This rapid expansion has created a strong demand for trained people in manufacturing, sales, quality control, research, and development.

Semesters I and II		Periods per week
PL 103	Thermoset Materials	5
PL 203	Thermoset Materials	
PL 113	Thermoset Processes	8
PL 211	Thermoset Processes	
PL 123	Thermoset Design	1
PL 223	Thermoset Design	
ENDR 105	Technical Drawing	3
CHEM 110	Chemistry	3
PHYS 110	Physics	2
ENG 100	Language and Communications	3
MATH 100	Mathematics	5
EC 112	Business Organization	1
		31

In Semester II, MATH 100 would be for 3 hours and MATH 120 (Computer Programming) for 2 hours per week.

PROGRAM PLASTICS TECHNICIAN C GBC CODE: EN 115
LOCATION Casa Loma Campus FEE: $295 per year
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Diploma or equivalent Chemistry and Physics would be desirable

In Canada the growth rate of the plastics industry is more than double the industrial average. Over 1100 companies are engaged in plastics; more than 600 of these firms are in Ontario. This rapid expansion has created a strong demand for trained people in manufacturing, sales, quality control, research and development.

Semester I	(First Year)	Periods per week
PL 101	Thermoplastic Materials	3
PL 104	Thermoset Materials	2
PL 111	Thermoplastic Techniques	5
PL 114	Thermoset Techniques	4
ENDR 105	Technical Drawing	3
CHEM 110	Chemistry	3
PHYS 110	Physics	2
ENG 110	Language and Communication	2
MATH 100	Mathematics	5
EC 112	Business Organization	1
		30

Semester II (First Year) - select Either Group A or Group B

GROUP A - THERMOPLASTICS

		Periods per week
PL 102	Thermoplastic Materials	6
PL 112	Thermoplastic Techniques	8
ENDR 100	Technical Drawing	3
CHEM 110	Chemistry	4
PHYS 110	Physics	2
ENG 110	Language & Communication	2
MATH 100	Mathematics	5
EC 112	Business Organization	1
		31

GROUP B - THERMOSETS

PL 105	Thermoset Materials	6
PL 115	Thermoset Techniques	9
ENDR 100	Technical Drawing	3
CHEM 110	Chemistry	4
PHYS 110	Physics	2
ENG 110	Language & Communication	2
MATH 100	Mathematics	5
EC 112	Business Organization	1
		31

PROGRAM: PLASTICS TECHNICIAN C (cont'd)

SECOND YEAR - Select either Group A or Group B, depending upon first year choice.

Semester III

GROUP A - THERMOPLASTICS			Periods per week
PL	201	Thermoplastic Materials	6
PL	213	Thermoplastic Techniques	10
CHEM	210	Chemistry	4
PHYS	210	Physics	2
ENG	200	Language and Communication	3
MATH	201	Mathematics	4
EC	212	Business Organization	1
			30

GROUP B - THERMOSETS			
PL	204	Thermoset Materials	6
PL	212	Thermoset Techniques	10
CHEM	210	Chemistry	4
PHYS	210	Physics	2
ENG	200	Language and Communication	3
MATH	201	Mathematics	4
EC	212	Business Organization	1
			30

Semester IV

GROUP A - THERMOPLASTICS			
PL	201	Thermoplastic Materials	3
PL	213	Thermoplastic Techniques	5
CHEM	210	Chemistry	4
PHYS	210	Physics	2
ENG	200	Language and Communication	3
MATH	201	Mathematics	4
EC	212	Business Organization	1
PL	205	Technical Report	8
			30

GROUP B - THERMOSETS			
PL	204	Thermoset Materials	3
PL	212	Thermoset Techniques	5
CHEM	210	Chemistry	4
PHYS	210	Physics	2
ENG	200	Language and Communication	3
MATH	201	Mathematics	4
EC	212	Business Organization	1
PL	206	Technical Report	8
			30

PROGRAM: PRECISION INSTRUMENT TECHNIQUES GBC CODE: EN 112
LOCATION: Casa Loma Campus FEE: $295 per year
Kensington Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation or equivalent; mathematics and science options would be assets.

Employment opportunities are many and varied. Numerous industries require personnel possessing a high degree of manual skills integrated with a sound electronics background; such industries include instrument departments, control systems and guidance manufacturers, geophysical services, para-medical services, environmental and meteorological departments, aircraft systems maintenance, etc.

Semester I

		Periods per week
INST 103	A.C. - D.C. Theory Lab	8
INST 102	Piping and Instrument Lab Techniques	4
INST 108	Instrumentation Fundamentals	6
MATH 100	Mathematics	4
ENGR 105	Technical Drawing	4
ENG 100	Language and Communication	2
MECH 102	Machine and Dynamics	4
		32

Semester II

INST 100	Measuring Principles	7
INST 101	Electronic Instrumentation	7
INST 106	Electronics Theory and Lab	6
MATH 100	Mathematics	4
ENG 100	Language and Communication	2
PHYS 100	Applied Physics	4
		30

Semester III

INST 209	Control Theory and Application	6
MET 100	Metallurgy	3
PIT 100	Horological Techniques	7
ENG 200	Language and Communication	2
MATH 200	Mathematics	4
CHEM 100	Chemistry	2
INST 204	Applied Solid State Electronics	6
		30

Semester IV

INST 202	Analytical and Environmental Instrumentation	6
INST 203	Computer Control Principles I	7
INST 204	Applied Solid State Electronics	6
MATH 200	Mathematics	4
ENG 200	Language and Communication	2
CHEM 100	Chemistry	2
MET 200	Metallurgy	3
		30

PROGRAM: PROCESS PIPING DESIGN — GBC CODE: EN 106
LOCATION: Casa Loma Campus — FEE: $295 per year
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma of a 4-or-5 year program, or equivalent.

Employment opportunities: Pipes are the arteries and veins of any modern, industrial community. Fluids and semi-solids, essential to our existence as a highly industrialized society, are carried by pipes during their production, processing, transportation and utilization. Developments in atomic energy, rocket propulsion, petro-chemicals, food and drug production, cryogenics and pollution control, are creating demands for more sophisticated piping techniques. This challenge will require the services of highly skilled technicians and draftsmen.

The program is designed to prepare graduates for employment as technicians, draftsmen and estimators by consulting and design engineers, public utilities and manufacturing industries.

Semester I (First Year)

		Periods per week
ENDR 118	Descriptive Geometry	3
ENDR 158	Drafting and Design	12
MATH 100	Mathematics	5
ENG 100	Language and Communication	2
MECH 100	Mechanics	3
MET 100	Metallurgy	2
MACH 110	Workshop Technology	4
		31

Semester II (First Year)

ENDR 118	Descriptive Geometry	3
ENDR 104	Pipe Drafting and Design	10
MATH 100	Mathematics	3
ENG 100	Language and Communication	2
MECH 100	Mechanics	3
MET 100	Metallurgy	2
ENDR 115	Structural Drafting	3
MACH 110	Workshop Technology	3
MATH 120	Applied Computer Programming	2
		31

Semesters III and IV (Second Year)

ENDR 204	Design and Layout of Piping Systems	10
ENDR 222	Descriptive Geometry	4
ENDR 225	Materials and Processes	2
MECH 115	Mechanics of Fluids	2
INST 106	Indust. Process Instrumentation	3
CHEM 100	Chemistry	3
MATH 200	Mathematics	4
ENG 200	Language and Communication	2
		30

PROGRAM: SET-UP-MAN - THERMOPLASTIC (Machine Moulding) — GBC CODE: EN 745
LOCATION: Casa Loma Campus — FEE: $135
LENGTH: 1 Semester
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10 with drafting

		Periods per week
PL 730	Thermoplastic Materials	4
PL 733	Thermoplastic Processes	14
PL 736	Thermoplastic Design	8
CHEM 735	Chemistry	1
PHYS 735	Physics	1
ENG 741	Language and Communication	1
MATH 733	Mathematics	1
		30

PROGRAM: TOOL AND DIE DESIGN — GBC CODE: EN 103
LOCATION: Casa Loma Campus — FEE: $295 per year
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: O.S.S.G.D. of a 4- or 5-year program, or equivalent.

The aim of the Tool and Die Design program is to develop the necessary theoretical and practical skills. The student studies and practices current design techniques. Through consideration of the factors which affect the efficiency of designed tools, he is encouraged to be imaginative, individualistic and critically analytical in seeking possible solutions to design and production problems. The student is taught the operating procedures and capacities of a variety of production and specialized machine tools. He studies Mathematics, Metallurgy, Metrology, Mechanics of Materials, so that his designs may be functional. In the course of his daily work routine the designer is involved in liaison work between many company departments so that the study of language and communication is extremely important.

For the enterprising graduate, prospects of advancement exist in production, manufacturing, industrial engineering, design, and technical sales.

Semester I (First Year)

		Periods per week
ENDR 118	Descriptive Geometry	3
ENDR 158	Drafting and Design	12
MATH 100	Mathematics	5
ENG 100	Language and Communication	2
MECH 100	Mechanics	3
MET 100	Metallurgy	2
MACH 110	Workshop Technology	4
		31

PROGRAM: TOOL AND DIE DESIGN (cont'd)

Semester II		Periods per week
ENDR 118	Descriptive Geometry	3
ENDR 130 to 133	Jig and Fixture	12
MATH 100	Mathematics	3
MECH 100	Mechanics	3
ENG 100	Language and Communication	2
TD 100	Metrology	2
MACH 110	Workshop Technology	4
MATH 120	Applied Computer Programming	2
		31

Semester III (Second Year)		
ENDR 140 & 240	Die Design	12
MACH 207	Diemaking	4
MET 100	Metallurgy	2
MATH 200	Mathematics	4
MECH 110	Mechanics of Materials	2
ENG 200	Language and Communication	2
ENDR 222	Descriptive Geometry	4
ENDR 202	Manufacturing Processes	2
		32

Semester IV (Second Year)		
ENDR 340	Die Design	12
ENDR 241	Tool Design Theory	2
TD 110	Metrology	2
WELD 148	Welding	3
MATH 200	Mathematics	4
MECH 110	Mechanics of Materials	2
ENG 300	Language and Communication	2
ENDR 222	Descriptive Geometry	4
		31

PROGRAM: TOOLMAKING TECHNICIAN
LOCATION: Casa Loma Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent

GBC CODE: EN 104
FEE: $295 per year

On the toolmaking technician program, the student can obtain the theoretical knowledge and operating skills necessary to enable him to enter toolmaking or related industries at an appropriate level.

Instruction is provided on standard machine tools and in modern techniques such as numerical control and electrical discharge machining. Related courses are offered to complement instruction in the major area. The graduate can look forward to a vital and interesting career in the modern production process, a career which demands skill, application, accuracy and cost-consciousness.

Semesters I and II (First Year)		Periods per week
ENDR 134	Tool Design (Jig and Fixtures)	4
MACH 120	Toolmaking	12
NC 126	Numerical Control	2
MACH 127	Hydraulics and Pneumatics	2
PM 110	Precision Measurement	1
MET 100	Metallurgy	1
MATH 100	Mathematics	5
MECH 100	Mechanics	3
ENG 100	Language and Communication	2
MATH 120	Applied Computer Programming	2
		34

NOTE: In Semester II MATH 100 will be for 3 hours and MATH 120 (Applied Computer Programming) for 2 hours per week.

Semesters III & IV (Second Year)		
ENDR 242	Die Design	4
MACH 204	Diemaking	10
NC 208	Numerical Control	2
MET 100	Metallurgy	1
PM 110	Precision Measurement	1
MATH 200	Mathematics	4
MECH 110	Mechanics of Materials	2
EL 305	Machine Circuits and Apparatus	2
PL 125	Plastic Fundamentals	2
MED 100	Fundamentals of Supervision & Instructional Techniques	2
		30

PROGRAM: WATCHMAKING
LOCATION: Casa Loma Campus
LENGTH: 2 Years (with optional 3rd year)
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent

GBC CODE: EN 111
FEE: $295 per year

1. Graduates of the two year program are qualified for employment in jewellery stores as watch reapirers or in precision industries as craftsmen.

2. Graduates of the three year program are qualified to service all types of complicated watches and all electric and electronic watches presently on the market except quartz crystal oscillators.

Semester I (First Year)		Periods per week
WACH 130	Theory of Watchmaking	6
WACH 131	Watchmaking Skills	18
SBM 132	Small Business Management	2
ENG 132	Language and Business Correspondence	2
MET 130	Metallurgy I	2
		30

Semester II (First Year)		
WACH 132	Theory of Watchmaking	6
WACH 133	Watchmaking Skills	18
SBM 132	Small Business Management	2
ENG 132	Language and Business Correspondence	2
MET 130	Metallurgy I	2
		30

Semester III (Second Year		
WACH 232	Theory of Watchmaking	6
WACH 231	Watchmaking Skills	18
EC 100	Economics	1
ENDR 105	Drafting	3
ENG 200	Language and Communication	2
		30

Semester IV (Second Year)		
WACH 232	Theory of Watchmaking	6
WACH 233	Watchmaking Skills	18
EC 100	Economics	1
ENDR 105	Drafting	3
ENG 200	Language and Communication	2
		30

Semester VI (Third Year)		
WACH 332	Theory of Watchmaking	5
WACH 333	Watchmaking Skills	19
MATH 136	Mathematics	2
WACH 335	Applied Electronics	4
		30

PROGRAM: WELDER FITTER
LOCATION: Casa Loma Campus
LENGTH: 40 weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10 or equivalent

GBC CODE: EN 551
FEE: $6.25 per week

Welding has become the most efficient and economical method of joing metals and is now indispensible in the production of various fabricated metal products ranging from consumer products to buildings, bridges, piping, tanks and ships.

A graduate of the welder fitter program will meet recognized industrial standards of competence for all-position welding which will open the door to a wide variety of interesting welding positions. Graduates will be able to advance beyond the level of operator to positions such as welding foreman, equipment sales and technical manufacturer's representative.

Students graduating from this program will be considered for the welding specialist program which is designed to prepare graduates to advance toward positions in the welding industry at the technician level.

Semesters I and II

WELD 540	Oxy-acetylene Welding, Brazing and Cutting-Theory and Practice
WELD 541	Electric Arc Welding-Theory and Practice
WELD 542	Fabrication-Theory and Practice
WELD 543	Gas Tungsten Arc Welding-Theory and Practice
WELD 544	Semi-Automatic Welding-Theory and Practice
ENDR 571	Plate and Structural Layout
ENDR 572	Blueprint Reading
MATH 536	Mathematics
ENG 530	Language and Communication

PROGRAM: WELDER FITTER REFRESHER
LOCATION: Casa Loma Campus
LENGTH: 20 Weeks
CERTIFICATION Certificate
PREREQUISITE: Basic knowledge of welding theory; manipulative skills necessary for reasonably good quality workmanship in the flat and horizontal positions, using electric arc and oxy-acetylene processes; a pre-induction theory and practical test is required.

GBC CODE: EN 554
FEE: $6.25 per week

This program is designed to build upon and improve already acquired welding skills to levels necessary to pass an all-position welding test of the standard required by the Boiler Inspection Branch of the Ministry of Consumer and Commercial Relations. Graduates may expect to find employment at the mechanic's level in any one of the wide variety of industrial welding positions or related occupations.

WELD 540	Oxy-Acetylene Welding, Brazing Cutting-Theory and Practice
WELD 541	Electric Arc Welding-Theory and Practice
WELD 542	Fabrication-Theory and Practice
WELD 543	Gas Tungsten Arc Welding-Theory and Practice
ENDR 571	Plate and Structural Layout
ENDR 572	Blueprint Reading
MATH 536	Mathematics (Module I)

PROGRAM: WELDING OPERATOR
LOCATION: Casa Loma Campus
LENGTH: 20 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 8 minimum or equivalent

GBC CODE: EN 552
FEE: $6.25 per week

This program provides an excellent opportunity for any man between the ages 16 and 50 to learn a useful skill in a relatively short period of time and to work toward the mechanic's level in a well-paying trade. Evening courses in special welding techniques are readily available for the ambitious person wishing to prepare for advancement.

WELO 530	Oxy-acetylene Welding, Brazing and Cutting-Theory and Practice
WELO 531	Electric Arc Welding-Theory and Practice
ENDR 573	Blueprint Reading
ENG 541	Language and Communication

PROGRAM: WELDING SPECIALIST
LOCATION: Casa Loma Campus
LENGTH: 1 Year
CERTIFICATION: Certificate
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent education and
(a) Specialization in welding in a secondary school or
(b) Successful completion of a welder fitter program in a College of Applied Arts and Technology or
(c) Approved industrial experience

Pre-entry training or upgrading can be arranged for candidates who do not possess the stated prerequisites.

GBC CODE: EN 153
FEE: $295 per year

With the continued development of increasingly sophisticated welding equipment, many new and interesting occupations are available in the welding industry.

The welding specialist graduate has a sound background knowledge of manual, semi-automatic, and automatic welding processes and equipment, weld inspection, quality control, production procedures and metallurgical principles. In addition, he possesses a variety of manipulative welding skills which will enhance his opportunities for employment.

A successful graduate of this program may expect to advance toward positions in manufacturing, maintenance, sales, technical service, weld testing and inspection, quality control, and design, at the technician level.

Semesters I and II		Periods per week
WELD 100	Manual Welding Processes / Gas and Arc	5
WELO 101	Gas Tungsten Arc Welding	2
WELO 102	Semi-automatic and Automatic Welding Processes	3
WELD 103	Industrial Welding Applications and Shop Procedures	5
MET 100	Metallurgy	2
MATH 100	Mathematics	4
ENG 100	Language and Communication	2
EL 200	Electrical Fundamentals	2
ENDR 118	Descriptive Geometry	2
ENDR 119	Technical Drawing	3
		30

PROGRAM: APPAREL MANAGEMENT
LOCATION: Kensington Campus
LENGTH: 2 Years (Optional 3 Years)
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma with mathematics or equivalent; spatial conception, digital and dexterity tests and/or instructor's evaluation may also be required

GBC CODE: FT 103
FEE: $295 per year

This is basically a management program. It is designed to train students to fill current employment opportunities as plant managers and production supervisors, primarily in Ontario, but also in the Canadian apparel industry.

Semesters I and III are of 15 weeks each and semesters II and IV are each for a duration of 11 weeks. Alternating months are spent in plants on projects (co-op).

Semester I (First Year)		Periods per week
AT 151	Seaming and Stitches	3
PAT 140	Garment Analysis I - Drafting	2
AT 100	Needle Trade Technology I - MTM - Costing	3
AT 161	Training Operators	3
FASH 101	Business Procedures	3
BUS 332	Managerial Accounting I	3
AT 121	Apparel Merchandising I - Structure	3
AT 181	Computer as a Marketing Tool I - Types	3
EC 175	Managerial Economics I	2
ENG 151	Technical Reports I (Writing)	2
FAB 150	Fabrics I - Fibres and Fabric Types	2
AT 122	Managerial Organization I	1
		30

Semester II (First Year)		Periods per week
AT 252	Garment Analysis II - Pattern Technology	3
AT 122	Needle Trade Technology II - Plant Layout	2
AT 171	Personnel and Industrial Relations II	3
FASH 151	Managerial Accounting II - Statements	3
ENG 261	Apparel Merchandising - Fashion Cycles	2
AT 191	Computer II - Systems	4
AT 242	Managerial Economics II - Quality Control	4
ENG 351	Technical Reports II	3
FAB 201	Fabrics II - Design, Weaving	3
FASH 201	Managerial Organization II - Responsibility	3
		30

Semester III (Second Year)		Periods per week
AT 152	Garment Analysis III	3
AT 251	Needle Trade Technology III - Markers	3
AT 272	Personnel and Industry III	3
FASH 202	Managerial Accounting III	3
AT 221	Apparel Merchandising III	3
AT 182	Computer III	3
AT 241	Managerial Economics III	3
ENG 251	Technical Reports III	3
FAB 250	Fabrics III - Production	3
AT 192	Managerial Organization III - Structure	3
		30

PROGRAM: APPAREL MANAGEMENT (cont'd)

Semester IV (Second Year)			Periods per week
AT	200	Garment Analysis IV - Materials	3
AT	162	Needle Trade Technology IV - Production Standards	3
AT	172	Personnel and Industrial Union - Management Relations	3
FASH	211	Managerial Accounting IV	3
AT	253	Apparel Merchandising IV - Mark-up Procedures	3
		Computer Uses in Accounting	3
EC	176	Managerial Economics IV - Government Controls	3
ENG	361	Technical Report Writing IV	3
FAB	261	Fabrics IV	3
AT	261	Managerial Organization IV - Trends	3
			30

THIRD YEAR - OPTIONAL

To continue in this program, the graduate of an Apparel Management program must show successful performance in the first 4 semesters with at least 3.0 G.P.A. (or equivalent).

Only students showing special aptitudes or those with an Industrial Engineering background may be selected to go on for the Apparel Management (Multi-Plant). A thesis based on the student's industrial experience is required by May 15th.

Year III is comprised of semester V, with a length of 15 weeks, and semester VI, with a length of 10 weeks.

			Periods per week
AT	350	Automated Machinery	5
AT	320	Large-Plant Problems	5
AT	370	Multi-Plant Problems	5
FAB	361	Fabrics - Testing Laboratory	5
		Delivery Schedules	5
		Advanced Computer Uses	5
			30

The above courses are taught at advanced levels.

PROGRAM: APPAREL PATTERN DRAFTING AND STYLING
LOCATION: Kensington Campus
LENGTH: 32 Weeks
CERTIFICATION: Certificate
PREREQUISITE: As 541 or equivalent; interview and sewing experience more important; eight week appraisal and evaluation; motivation vital

GBC CODE: FT 540
FEE: $6.25 per week

This program is designed to train graduates for entry into woman's apparel retail and wholesale, boutiques, styling, fashion illustration and advertisement layouts, sample-making, design assistant, etc. This is a practical program designed to develop competence in pattern drafting, styling, form, co-ordination, grading, sketching, etc. "on the flat". Sales in fabrics and patterns is another possible direction from this program.

Semester I			Periods per week
PAT	541	Apparel Pattern Drafting	12
PAT	542	Design, Colour, Texture	3
PAT	544	Fashion Illustration	3
DRES	541	Apparel Construction, Samples	7
SEW	541	Power Sewing Machines, Irons	2
ENG	551	Vocabulary of Fashion	3
			30

Semester II			Periods per week
PAT	551	Apparel Pattern Grading	10
PAT	552	Grading, Copies, Style, Textiles	4
PAT	553	Design, Colour, Texture	4
PAT	554	Fashion Illustration	3
DRES	551	Construction, Samples, etc.	5
SEW	551	Power Sewing and Irons	2
ENG	561	Vocabulary of Fashion	2
			30

PROGRAM: CREATIVE FASHION DESIGN
LOCATION: Kensington Campus
LENGTH: 2 Years (Optional 3 Years)
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma (Grade 12) or equivalent; instructor's evaluation; sewing training and aptitude

GBC CODE: FT 101
FEE: $295 per year

This program is designed to develop the creativity of the student in fashion disciplines culminating in original styles, patterns and finished garments for the women's apparel and fur industries. In the second year, the student may specialize in one of five options; apparel section supervision, couture workroom, fur apparel design, or apparel buying. A third post-graduate year is available for those with creative talent to "Design-A-Line".

Semester I (First Year)

		Periods per week
SEW 145	Industrial Sewing Machines, Work Methods	2
PAT 141	Pattern Drafting, Draping, Grading	7
PAT 142	Design	2
DRES 141	Dressmaking, Construction, Samples	6
DRES 146	Tailoring I (Women's)	3
DRES 142	Fabrics - Fibres	2
PAT 144	Fashion Illustration	2
ENG 151	Vocabulary of Fashion	2
	ELECTIVES - Select 2 of:	
FUR 146	Fur Recognition (prerequisite for option IV)	2
FASH 100	Fashion Business Procedures (prerequisite for semester V)	2
FASH 110	Modelling - Fashion Runway	2
WEAV 101	Weaving I - Elementary - Hand Looms	2
		30

Semester II (First Year)

		Periods per week
SEW 155	Industrial Sewing, Work Methods	2
PAT 151	Pattern Drafting II	7
PAT 152	Design II	2
DRES 151	Dressmaking II	6
DRES 156	Tailoring II (Women's)	3
DRES 152	Fabrics II - Weaves, etc.	2
PAT 154	Fashion Illustration II	2
ENG 161	Fashion Trends, History	2
	ELECTIVES - Select 2 of:	
FUR 156	Fur Projects	2
FASH 101	Fashion Business Procedures	2
WEAV 151	Weaving II	2
		30

Several projects and fashion shows are required. Students will develop their own sample books. Industry training is also required from time to time.

PROGRAM: CREATIVE FASHION DESIGN (cont'd)

OPTION I - APPAREL SECTION SUPERVISOR

To continue, the student must show satisfactory standing in first year FT 101 or equivalent work experience. This includes honour standing in "Industrial Power Sewing" and make-up in FUR 543/545, PAT 141/151 and DRES 141/151 or equivalent.

Semester III (Second Year)

		Periods per week
SEW 141-2	Flatbed, Serger, Sewing Machines	6
SEW 245	Sewing Machines - Methods	2
SEW 244	Special Machines, Cutting, etc.	5
SEW 241	Apparel Plant Supplies	5
AT 171	Human Relations	3
AT 161	Operator Training	3
	ELECTIVES - Select 2 of:	
ENG 251	Language of Fashion	3
FASH 201	Fashion Business Procedures	3
JWL 260	Introduction to Jewellery	3
WEAV 201	Advanced Weaving	3
		30

Semester IV (Second Year)

		Periods per week
SEW 143-4	Blind Stitch, Buttonhole and Sew Machines	6
SEW 242	Sewing Machine Attachments	2
AT 172	Labour - Management Relations	3
AT 162	Operator Incentives	3
FAB 151	Fabric, Treads, Supplies	3
AT 151	Seaming, Tensions, Needles	4
PAT 242	Markers, Pattern Layout	3
	ELECTIVES - Select 2 of:	
ENG 261	Language of Fashion	3
FASH 211	Fashion Business Procedures	3
ENA 270	Enamelling - Jewellery	3
WEAV 251	Weaving - Advanced	3
		30

PROGRAM: CREATIVE FASHION DESIGN (cont'd)

OPTION II - COUTOURE WORKROOM SUPERVISOR

Satisfactory standing in first year FT 101 or equivalent work experience is required for this course. Honour standing in "Custom Dressmaking and Alterations" with make-up in FUR 543/545, PAT 141/151, and PAT 142, or equivalent is also preferred.

Semester III (Second Year)		Periods per week
DRES 241	Couture Construction	7
DRES 242	Fabrics, Knits, Trims, Braids	4
DRES 244	Alterations, Advanced Fitting	6
AT 171	Human Relations	3
SEW 242	Sewing Machine Attachments	2
PAT 241	Pattern Drafting	2
	ELECTIVES - Select 2 of:	
ENG 251	Language of Fashion	3
FASH 201	Fashion Business Procedures	3
JWL 260	Introduction of Jewellery	3
PAT 244	Fashion Illustration III	3
		30

Semester IV (Second Year)		Periods per week
DRES 251	Couture Construction	7
DRES 252	Fabric, Knits, Trims, Braids	4
DRES 254	Alterations, Fitting	6
AT 172	Labour Management Relations	3
SEW 252	Special Machines	2
PAT 251	Pattern Drafting	2
	ELECTIVES - Select 2 of:	
ENG 261	Language of Fashion	3
FASH 211	Fashion Business Procedures	3
ENA 270	Enamelling - Jewellery	3
PAT 254	Fashion Illustration IV	3
		30

PROGRAM: CREATIVE FASHION DESIGN (cont'd)

OPTION III - FASHION APPAREL DESIGN

Satisfactory standing in first year or equivalent work experience is required. This includes honour standing in "Apparel Pattern Drafting and Styling" with make-up in FUR 543/545, DRES 142/152, FASH 100/101, or equivalent.

Semester III (Second Year)		Periods per week
PAT 241	Pattern Drafting III	9
PAT 243	Fashion - Research	2
PAT 252	Design III - Advanced	3
DRES 247	Dressmaking Construction III - Advanced	4
DRES 246	Tailoring III - Fur Fabrics	3
ENG 251	Language of the Fashion World	2
	ELECTIVES - Select at least 3 of:	
PAT 244	Fashion Illustration III	2
JWL 260	Introduction of Jewellery	3
SEW 242	Industrial Sewing Machines - Attachments	2
FASH 201	Fashion Business Procedures	2
WEAV 201	Weaving - Advanced	2
		30

Any free hour will be spent in PAT 241.

PAT 251	Pattern Drafting IV	9
PAT 262	Design IV	2
PAT 253	Patterns in Plant	3
DRES 251	Dressmaking Construction IV - Advanced	3
DRES 256	Tailoring IV	2
DRES 244	Alterations and Fitting	2
ENG 261	Language of the Fashion World	2
	ELECTIVES - Select at least 3 of:	
PAT 254	Fashion Illustration	2
ENA 270	Enamelling and Jewellery	3
SEW 252	Sewing Machines - Special Types	2
FASH 211	Fashion Business Procedures	2
WEAV 251	Weaving - Advanced	2
		30

Any free hour will be spent in PAT 251.

Periodic on-job or successful free lance experience is required during semesters.

PROGRAM: CREATIVE FASHION DESIGN (cont'd)

OPTION IV - FURS AND FUR DESIGNS

Satisfactory standing in first year or equivalent work experience is required for this program. This includes honour standing in "Fur-Leather" FT 543 with make-up in PAT 141/151, SEW 541, and DRES 141/151.

Semester III (Second Year)		Periods per week
PAT 241	Pattern Drafting III	5
FUR 245	Fur and Leather Design	4
FUR 244	Fur Manufacturing Techniques	4
LTH 204	Leather and Suede Manufacturing	2
DRES 244	Alterations and Fitting	2
DRES 246	Tailoring IV	2
FUR 243	Fur Recognition and Sales	2
LTH 203	Leather and Suede Types	1
FUR 247	Fur Buying	1
ENG 251	Language of the Fashion World	2
	ELECTIVES - Select 2 of:	
SEW 242	Industrial Sewing Machines	2
PAT 244	Fashion Illustration III	2
JWL 260	Introduction of Jewellery	3
FASH 201	Fashion Business Procedures	2
FUR 146	Consumer Education - Fur	2
		30

Any additional hour is to be spent in FUR 244.

Semester IV (Second Year)		Periods per week
PAT 251	Pattern Drafting IV	6
FUR 255	Fur Design	4
FUR 254	Fur Manufacturing Techniques	4
LTH 254	Leather and Suede Techniques	2
DRES 241	Apparel Assembly	2
FUR 253	Fur Recognition and Sales	2
LTH 253	Leather and Suede Types	1
FUR 257	Fur Buying	1
ENG 261	Language of the Fashion World	2
	ELECTIVES - Select 2 of:	
PAT 254	Fashion Illustration	2
ENA 270	Enamelling - Jewellery	3
FASH 211	Fashion Business Procedures	2
LTH 251	Leather and Suedes	3
		30

Any additional hour is to be spent in FUR 244. Periodic in-plant experience is required during the year.

PROGRAM: CREATIVE FASHION DESIGN (cont'd)

OPTION V - FASHION APPAREL BUYING TRAINEE

Satisfactory standing in first year or equivalent work experience is required for this program. This includes honour standing in "Apparel Pattern Drafting and Styling" or "Fur and Leather" FT 543 with make-up in DRES 141/151, PAT 144/154, and DRES 142/152 as applicable.

Semester III (Second Year)		Periods per week
DRES 249	Workroom Problems	5
AT 171	Human Relations	5
DRES 241	Couture Construction	7
FAB 150	Fabric Characteristics	3
AT 221	Marketing - Seasons and Cycles	5
	ELECTIVES - Select 2 of:	
FUR 247	Fur Buying	2
ENG 251	Language of Fashion	2
PAT 244	Fashion Illustration	3
AT 181	Computer-Mathematics - Elementary	3
		30

Semester IV (Second Year)		Periods per week
DRES 256	Tailoring IV	5
DRES 248	Buying Supplies	5
AT 222	Marketing Research - Consumer	5
AT 272	Management	5
BUS 332	Accounting Systems	5
	ELECTIVES - Select 2 of:	
AT 253	Business Applications	3
ENG 261	Language of Fashion	2
EC 113	Business Organization - Records	2
PAT 254	Fashion Illustration	3
		30

THIRD YEAR - OPTIONAL

To continue in this program, the student must have successfully completed the two year Creative Fashion Design program, or its equivalent.

This is the "Design-a-Line" year. This post-graduate year is developed to facilitate the transition of the student from school into industry by operating under simulated seasonal pressures as in the industry with industrial Performance Objectives.

Semester I (Third Year)		Periods per week
PAT 341	Style Predictions - Consumer Views	2
DES 300	Design-a-Line - Summer Line	22
RSCH 300	Research and Fashion Survey	3
AUD 300	Audit Relevant Courses	3
		30

Line must be ready for viewing by January 15th.

PROGRAM: CREATIVE FASHION DESIGN (cont'd)

Semester II (Third Year)		Periods per week
DES 351	Design-a-Line - Fall Line	24
RSCH 351	Research and Survey	3
AUD 351	Audit Relevant Courses	3
		30

Fall Line must be ready for viewing by May 15th.

Lines will be viewed by representatives of the Apparel Industry and graded.

PROGRAM: DRESSMAKING - CUSTOM AND ALTERATIONS
LOCATION: Kensington Campus
LENGTH: 28 Weeks
CERTIFICATION: Certificate
PREREQUISITE: As 541 or equivalent; interview and motivation to sew; six weeks appraisal and evaluation

GBC CODE: FT 541
FEE: $6.25 per week

This is a practical program for custom dressmaking, fitting, alterations, store and boutique workrooms, sample-makers, and fur finishers (plus specific training), as well as for sales in textiles, patterns, "findings", costumes, rentals, etc.

Semester I		Periods per week
DRES 546	Tailoring - Basic	7
DRES 541	Construction - Cutting, etc.	12
DRES 542	Fabrics - Trims	2
DRES 544	Fitting, Alterations, Care	4
DRES 545	Patterns, Intimate Wear	1
SEW 541	Power Machines and Irons	1
FASH 500	Fashion Business Routines	1
ENG 551	Vocabulary of Fashion	2
		30

Semester II		Periods per week
DRES 556	Tailoring - Intermediate	7
DRES 551	Cutting, Construction	12
DRES 552	Fabrics, Trims, Knits	2
DRES 554	Fitting, Alterations	4
DRES 555	Patterns, Fashions, etc.	1
SEW 551	Power Machines, Irons, etc.	1
FASH 501	Fashion Business Procedures	1
ENG 561	Vocabulary of Fashions	2
		30

Reference books and periodicals are required re fabrics, suedes, fur, patterns, and styling.

Courses are available full-time or part-time.

PROGRAM: FUR, LEATHER AND SUEDE
LOCATION: Kensington Campus
LENGTH: 40 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Open

GBC CODE: FT 543
FEE: $6.25 per week

The only one in Canada, this program will give men and women an integrated knowledge of fur, leather and suede; the industries and their materials, techniques and products. Graduates will be able to work profitably in any division in these industries.

Semester I		Periods per week
FUR 543	Fur Recognition	3
FUR 544	Fur Manufacturing Techniques	9
FUR 545	Fur and Leather Fashions	4
LTH 503	Leather and Suede Types	4
LTH 504	Manufacturing Techniques	6
ENG 551	Fashion Communication I	2
FASH 500	Fashion Business Routines	2
		30

Semester II		Periods per week
FUR 553	Fur Recognition - Look Alikes	3
FUR 554	Fur Manufacturing Techniques	9
FUR 555	Fur and Leather Fashions	4
LTH 553	Leather and Suedes	4
LTH 554	Manufacturing Techniques	6
ENG 561	Fashion Communication II	2
FASH 501	Fashion Business Procedures	2
		30

PROGRAM: FURNITURE PRODUCTION AND DESIGN
LOCATION: Kensington Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent (Grade 12)

GBC CODE: FT 104
FEE: $295 per year

This program will prepare a student for employment in the areas of furniture, finishing, cabinet making, and furniture upholstery. A graduate will understand furniture layout, construction, design, and assembly. This knowledge will enable him to step into supervisory, buying or selling positions or to engage in the assessing and restoring of antiques, and manufacturing.

Semester I (First Year)		Periods per week
FURN 101	Cabinet and Chairmaking I	6
FURN 102	Wood Machining I	3
FURN 103	Finishing I	3
FURN 104	Upholstery I	9
FURN 105	Materials	2
FURN 106	Technical Drawing and Blueprint Reading	2
FURN 108	Furniture Production Management I	2
	ELECTIVES - Select 1 of:	
ENG 152	Vocabulary of Furnishings I	2
CER 101	Ceramics	3
		30

PROGRAM: FURNITURE PRODUCTION AND DESIGN (cont'd)

Semester II (First Year)		Periods per week
FURN 151	Cabinet and Chairmaking II	6
FURN 162	Wood Machining II	3
FURN 163	Finishing II	4
FURN 154	Upholstery II	8
FURN 155	Materials II	2
FURN 156	Technical Drawing II	2
FURN 158	Furniture Production Management	2
	ELECTIVES - Select 1 of:	
FURN 157	Furniture Design I	2
ENG 162	Language of Furnishings II	2
CER 151	Ceramics	3
		30

Additional time in first term is to be spent in FURN 104, and additional time in second term is to be spent in FURN 154.

OPTION I - WOODWORKING

Semester III (Second Year)		Periods per week
FURN 205	Materials III	2
FURN 207	Design and Interiors	3
FURN 208	Furniture Production Management	1
FURN 202	Wood Machining	6
FURN 201	Cabinet and Chair Making	14
ENG 252	Furnishing Terminology II	2
	ELECTIVES - Select 1 of:	
FURN 209	Style, Colour, Texture	2
FURN 206	Technical Drawing	2
FAB 252	Drapes, Slipcovers I	3
CER 201	Ceramics, Pottery	3
		30

Semester IV (Second Year)		Periods per week
FURN 255	Materials IV	2
FURN 257	Design and Interiors IV	3
FURN 258	Furniture Production Management IV	1
FURN 262	Wood Machining IV	6
FURN 251	Cabinet and Chairmaking IV	14
ENG 262	Furnishings - Technical Writing	2
	ELECTIVES - Select 1 of:	
FURN 256	Technical Drawing	2
FURN 264	Antique Upholstered Furniture	2
FURN 260	Costing, Estimating	2
FURN 259	Style, Colour, Texture	3
FAB 262	Drapery, Slipcovers	3
CER 251	Ceramics, Pottery	3
		30

PROGRAM: FURNITURE PRODUCTION AND DESIGN (cont'd)

OPTION II - FINISHING

Semester III (Second Year)		Periods per week
FURN 205	Materials III	2
FURN 207	Design and Interiors	3
FURN 208	Furniture Production Management	1
FURN 203	Furniture Finishing III	14
ENG 252	Furnishing Terminology III	2
FURN 202	Wood Machining	6
	ELECTIVES - Select to complete 30 hours	
FURN 206	Technical Drawing	2
FURN 209	Style, Colour, Texture	2
FAB 252	Drapes and Slipcovers I	3
CER 201	Ceramics and Pottery	3
		30

Semester IV (Second Year)		Periods per week
FURN 255	Materials IV	2
FURN 257	Design, Interiors IV	3
FURN 258	Furniture Production Management	1
FURN 262	Wood Machining IV	2
FURN 263	Finishing IV	14
ENG 262	Furniture - Technical Writing	2
	ELECTIVES - Select to complete 30 hours	
FURN 262	Wood Machining	4
FURN 256	Technical Drawing	2
FURN 264	Antique Upholstered Furniture	2
FURN 260	Costing, Estimating	2
FURN 259	Styles, Colour, Texture	3
FAB 262	Drapery Slipcovers II	3
CER 251	Ceramics - Advanced	3
		30

Additional time is to be spent in your area of speciality.

OPTION III - UPHOLSTERY

Semester III (Second Year)		Periods per week
FURN 205	Materials III	2
FURN 207	Design and Interiors	3
FURN 208	Furniture Production	1
FURN 204	Upholstery III	15
ENG 252	Furnishings Terminology III	2
	ELECTIVES - Select to complete 30 hours	
FURN 202	Wood Machining	6
FURN 206	Technical Drawing	2
FURN 209	Style, Colour, Texture	2
FAB 252	Drapes, Slipcovers I	3
CER 201	Ceramics, Pottery	3
		30

PROGRAM: FURNITURE PRODUCTION AND DESIGN (cont'd)

OPTION III - UPHOLSTERY (cont'd)

Semester IV (Second Year)		Periods per week
FURN 255	Materials IV	2
FURN 257	Design and Interiors	3
FURN 258	Furniture Production Management	1
FURN 254	Upholstery IV	15
ENG 262	Furniture Technical Writing IV	2
	ELECTIVES - Select to complete 30 hours	
FURN 262	Wood Machining	6
FURN 256	Technical Drawing	2
FURN 264	Antiqued Upholstered Furniture	2
FURN 260	Costing - Estimated	2
FURN 259	Style, Colour, Texture	3
FAB 262	Drapery, Slipcovers II	3
CER 251	Ceramics - Advanced	3
		30

Additional time is to be spent in student's speciality.

PROGRAM: FURNITURE REFINISHING AND REPAIR
LOCATION: Kensington Campus
LENGTH: 32 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Interest; motivation; English comprehension

GBC CODE: FT 544
FEE: $6.25 per week

In this program, students work at their own pace at restoring, repainting and refinishing fine furniture. This gives them preparation for custom and touch-up employment.

		Periods per week
FURN 552	Woodwork Refinishing	28
MATH 534	Mathematics for Furniture Design	2
		30

PROGRAM: FURNITURE UPHOLSTERY (REPAIR)
LOCATION: Kensington Campus
LENGTH: 40 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Interest; motivation; English comprehension

GBC CODE: FT 545
FEE: $6.25 per week

The student needs the ability to visualize the pattern of the piece, and then he will learn to cut and sew (machine), and make seats, cushions, arms, backs, and trim. This program offers preparation for custom and production employment.

		Periods per week
FURN 553	Upholstery, Cutting, Sewing, etc.	30

PROGRAM: HAIRSTYLING FOR BARBERS
LOCATION: Kensington Campus
LENGTH: 6 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Current Barbering licence (Ontario); good health

GBC CODE: FT 572
FEE: $6.25 per week

This program enables the barber to develop his skills in modern hairstyling, waving, blowing, curling, etc.

		Periods per week
STYL 510	Styled Haircutting - Theory	2
STYL 511	Styled Haircutting - Practice	15
STYL 512	Blowing and Curling - Theory	2
STYL 513	Blowing and Curling - Practice	4
STYL 514	Permanent Waving - Colouring	5
STYL 515	Chemical Hair Straightening - Theory	1
STYL 516	Men's Hairpieces (fit, etc.) - Theory	1
		30

PROGRAM: INDUSTRIAL POWER SEWING
LOCATION: Kensington Campus
LENGTH: 8 Weeks
CERTIFICATION: Performance Objective Certificate
PREREQUISITE: Evidence of digital dexterity and comprehension in any language

GBC CODE: FT 542
FEE: $6.25 per week

This is a concentrated performance objective program leading to rhythm, speed and stamina. It begins with a single needle lockstitch sewing machine but can lead to special machines depending upon the ability of the student.

Students will enter employment upon graduation. The program is endorsed by the Apparel Manufacturers Association of Ontario.

		Periods per week
SEW 541	- Orientation - Single Needle Lockstitch Sewing Machine - Garment Assembly	up to 30 hours

If the student reaches the performance objective within 8 weeks, the following electives are available:

SEW 542	Serger Machine	25
SEW 543	Blindstitch Machine	25
SEW 544	Buttonhole/Button Sew	25

Fee payers may select SEW 141, 142, 143, 144.

PROGRAM: JEWELLERY ARTS (TECHNIQUES) GBC CODE: FT 102
LOCATION: Casa Loma Campus FEE: $295. per year
LENGTH: 2 Years (Optional 3 Years)
CERTIFICATION: Diploma (Jewellery Technician)
PREREQUISITE: Ontario Secondary School Diploma or equivalent (prefer with art options); mature student with demonstrated interest and/or ability

Specialization is provided for after the initial 10 week orientation and familiarization period. To qualify for a diploma the student must, over 2 years, qualify in all designated areas. A third year is offered for post-graduate work in Jewellery or Jewellery repairs.

Semester I (First Year)		Periods per week
JWL 160	Introduction to Jewellery (10 Weeks)	140 total
MET 166	Metallurgy	1
GEM 167	Gemmology	2
CHEM 168	Chemistry	1
DES 169	Design	3
ENG 132	Language and Communications	2
SBM 132	Small Business Management	2
ENA 170	Enamelling	3
	ELECTIVES - Select 1 of:	
JWL 161-165	Goldsmithing and Theory	16
JWL 162-165	Gemsetting and Theory	16
JWL 163-165	Engraving and Theory	16
JWL 164-165	Silversmithing and Theory	16
		30

Semester II (First Year)		Periods per week
MET 176	Metallurgy	1
GEM 177	Gemmology	2
CHEM 178	Chemistry	1
DES 179	Design	3
ENG 142	Language and Communications	2
SBM 142	Small Business Management	3
	ELECTIVES - Select 1 of:	
JWL 171-175	Goldsmithing and Theory	16
JWL 172-175	Gemsetting and Theory	16
JWL 173-175	Engraving and Theory	16
JWL 174-175	Silversmithing and Theory	16
		30

NOTE: Further specialization depends on your first year record.

PROGRAM: JEWELLERY ARTS (TECHNIQUES) (cont'd)

Semester III (Second Year)		Periods per week
MET 266	Metallurgy	1
GEM 267	Gemmology	2
DES 269	Design	3
ENA 270	Enamelling	2
	ELECTIVES - Select 1 of:	
JWL 261-265	Goldsmithing and Theory	22
JWL 262-265	Gemsetting and Theory	22
JWL 263-265	Engraving and Theory	22
JWL 264-265	Silversmithing and Theory	22
		30

Semester IV (Second Year)		Periods per week
MET 276	Metallurgy	1
GEM 277	Gemmology	2
DES 279	Design	3
ENA 280	Enamelling	2
	ELECTIVES - Select 1 of:	
JWL 271-275	Goldsmithing and Theory	22
JWL 272-275	Gemsetting and Theory	22
JWL 273-275	Engraving and Theory	22
JWL 274-275	Silversmithing and Theory	22
		30

THIRD YEAR - OPTIONAL

OPTION I - JEWELLERY TECHNOLOGY

Those eligible for continuation in this program are graduates in Jewellery Techniques (2 years) or mature students from industry with an equivalent as suggested by the Canadian Jewellers' Association.

Semester V (Third Year)		Periods per week
GEM 367	Gemmology	2
DES 369	Design	3
	ELECTIVES - Select 1 of:	
JWL 361-365	Goldsmithing and Theory	25
JWL 362-365	Gemsetting and Theory	25
JWL 363-365	Engraving and Theory	25
JWL 364-365	Silversmithing and Theory	25
JWL 366-365	Jewellery Repair and Theory	25
		30

PROGRAM: JEWELLERY ARTS (TECHNIQUES) (cont'd)

Semester VI (Third Year)		Periods per week
GEM 377	Gemmology	2
DES 379	Design	3
	ELECTIVES - Select 1 of:	
JWL 371-375	Goldsmithing and Theory	25
JWL 372-375	Gemsetting and Theory	25
JWL 373-375	Engraving and Theory	25
JWL 374-375	Silversmithing and Theory	25
JWL 376-375	Jewellery Repairs and Theory	25
		30

OPTION II - JEWELLERY TECHNOLOGY REPAIRS

Those eligible for continuation in this program are graduates of Jewellery Techniques (2 years) or mature students with equivalent from industry as suggested by the Canadian Jewellers' Association.

Semester V (Third Year)		Periods per week
JWL 365	Theory of Repairs	2
JWL 366	Jewellery Repairs	23
GEM 367	Gemmology	2
DES 369	Design	3
		30

For mature students from industry, add the following courses to those listed above:

JWL 366	Jewellery Repairs	11
JWL 136	Shop - General Jewellery	6
MET 266	Metallurgy	1
CHEM 168	Chemistry	1
SBM 132	Small Business Management	2
ENG 132	Communications	2
		30

Semester VI (Third Year)		Periods per week
JWL 375	Theory of Repairs	2
JWL 376	Jewellery Repairs	23
GEM 377	Gemmology	2
DES 379	Design	3
		30

For mature students from industry, add the following courses to those listed above:

JWL 376	Jewellery Repairs	11
JWL 146	Shop - General Jewellery	6
MET 276	Metallurgy	1
CHEM 178	Chemistry	1
SBM 142	Small Business Management	2
ENG 142	Communications	2
		30

Students may be required to do projects in Jewellery Workshops under the sponsorship of the Canadian Jewellers' Association.

PROGRAM: BAKING PRE-EMPLOYMENT — GBC CODE: F 541
LOCATION: Kensington Campus — FEE: $6.25 per week
LENGTH: 40 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10 or equivalent

To prepare students who do not meet apprenticeship prerequisites for a career in the Canadian baking industry, with special reference to the in-store bakery and craft-style bakery.

Semester I (Basic)		Periods per week
BK 510	Baking Theory	5
BK 511	Related Theory	1
BK 513	Nutrition	1
BK 515	Bread Craft	4
BK 516	Pastry Craft	3
BK 517	Cake Craft	3
BK 518	Cookie Craft	3
ENG 511	English	2
MATH 511	Mathematics	2
SAN 531	Sanitation and Hygiene	1
		25

Semester II (Advanced)		Periods per week
BK 519	Decorating Craft	3
BK 520	Baking Theory	7
BK 521	Related Theory	1
BK 525	Bread Craft	4
BK 526	Pastry Craft	4
BK 540	Baking Management	2
		25

PROGRAM: BARTENDING — GBC CODE: F 575
LOCATION: Kensington Campus — FEE: $6.25 per week
LENGTH: 15 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10 or mature student; no apparent physical defects or speech impediments; neat and clean appearance; pleasant and outgoing personality

Bartending: to train men and women as bartenders (stool and service) for licensed establishments in the food and hospitality industry.

		Periods per week
BAR 500	Human Relations	3
BAR 502	Ontario Liquor Law	1
BAR 503	Mixology I	15
BAR 504	Bar Management	1
BAR 505	Accounting	1
BAR 506	Beverage Theory	2
BAR 507	Practical Experience	5
ENG 500	English	1
MATH 500	Mathematics	1
		30

PROGRAM: CHEF TRAINING PRE-EMPLOYMENT
LOCATION: Kensington Campus
LENGTH: 40 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10

GBC CODE: F 742
FEE: $200

Graduates of this program will find unlimited opportunities for gainful employment in all areas of the food service industry, including hotel kitchens, restaurants, institutions, and commercial and industrial catering organizations. Evening banquets are considered an essential part of this program. Candidates must be prepared to complete a minimum of 30 banquet hours during the program.

Semester I

		Periods per week
TF 731	Theory of Food	5
BK 730	Theory of Baking	1
MC 730	Theory of Meat	1
HIND 730	Kitchen Management	2
FP 730	Quantity Food Preparation - Practical	12
BK 732	Practical Baking	3
MC 732	Practical Meat Cutting	1
MATH 735	Business Mathematics	2
ENG 741	Language and Communications	2
NUT 731	Nutrition	1
CONV 710	Convenience Food	1
		31

Semester II

		Periods per week
TF 731	Theory of Food	3
BK 730	Theory of Baking	2
HIND 730	Kitchen Management	4
FP 731	Advanced Quantity Foods	12
BK 733	Advanced Baking	3
MC 732	Advanced Meat Cutting	1
MATH 735	Business Mathematics	2
ENG 741	Language and Communications	2
MC 730	Theory of Meat	1
CONV 720	Convenience Food	1
		31

PROGRAM: COOK TRAINING
LOCATION: Kensington Campus
LENGTH: 20 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10 or equivalent

GBC CODE: F 573
FEE: $6.25 per week

This program is designed to prepare men and women for a career in professional cooking. Graduates are encouraged to enter the apprentice chef training program and complete the requirements for the provincial certificate of qualification as a journeyman chef. Evening banquets are considered an essential part of the program and candidates must be prepared to complete a minimum of 30 banquet hours during the program.

		Periods per week
BK 531	Theory of Baking	1
BK 532	Practical Baking	3
ENG 541	Language and Communications	1
FP 530	Quantity Food Preparation	12
HIND 530	Kitchen Management	2
MATH 535	Business Mathematics	1
MC 530	Theory of Meat	1
MC 531	Practical Meat Cutting	1
NUT 531	Nutrition	1
TF 531	Theory of Food	5
CONV 510	Convenience Food	1
		29

PROGRAM: DINING ROOM SERVICE
LOCATION: Kensington Campus
LENGTH: 10 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10 preferred; keen interest; pleasing personality and attractive personal appearance

GBC CODE: F 570
FEE: $6.25 per week

Graduates have ample opportunity to select positions from a variety of establishments in the food service industry. Many hotel dining rooms, clubs, railway dining cars, and motels employ only trained personnel or graduates of recognized programs. Many graduates have entered the industry directly in restaurant chains; others find employment in institutions that permit advancement to the positions of captain, maitre d'hotel and hostess. Evening banquet service is considered an essential part of the practical training and candidates must be prepared to complete a minimum of 30 banquet hours during the program.

		Periods per week
HIND 532	Theory of Dining Room Service	5
HIND 533	Table Service	16
HIND 535	Beverage Service	2
TF 533	Theory of Food	3
MATH 535	Business Mathematics	1
ENG 541	Language and Communications	1
		28

PROGRAM: FOOD ADMINISTRATION — GBC CODE: F 103
LOCATION: Kensington Campus — FEE: $295 per year
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent, or journeyman chef certificate with 2nd class honours

This course is designed to fill the growing need for men and women who are trained to manage the preparation and service of food. Students are taught all aspects of food production from menu planning to banquet catering, and are schooled in modern methods of management as well. Successful graduates of this course may look forward to well paid positions in restaurants, institutions and catering companies at the midmanagement levels.

Semester I

		Periods per week
HIND 101	Food Orientation	2
FP 100	Food Preparation I	6
FP 102	Theory of Food I	2
FT 100	Food Products and Standards	3
SAN 100	Sanitation and Hygiene	3
HIND 104	Menu Planning	3
HIND 105	Accounting I	3
MATH 110	Business Math	3
ENG 110	Language and Communications	2
		27

Semester II

		Periods per week
NUT 100	Nutrition	3
FP 100	Food Preparation II	6
FP 103	Theory of Food II	2
HIND 103	Food Cost Control	4
HIND 108	Beverage Preparation	2
HIND 110	Wine Comprehension	1
HIND 105	Accounting II	3
EC 210	Economics	3
ENG 211	Language and Communications	2
		29

Semester III

		Periods per week
FP 204	Food Preparation III	6
HIND 209	Restaurant Accounting	3
HIND 219	Management of Food Operations	3
HIND 217	Computer Orientation	2
HIND 218	Food and Beverage Management	3
HIND 207	Food Law	1
HIND 203	Food Facilities Layout	3
DR 156	Blueprint Reading and Drafting	1
HIND 205	Dining Room Service (half semester)	6
HIND 208	Work Experience (half semester)	8
		28

Semester IV

		Periods per week
HIND 210	Personnel Management	3
HIND 211	Payroll Analysis and Control	1
HIND 212	Advertising and Sales Promotion	3
HIND 218	C.A.M.P. Computer Program	3
FP 203	Convenience Foods	2
HIND 202	Banquet Management	2
HIND 216	Management Practice	16
		30

PROGRAM: FOOD PROCESSING TECHNOLOGY — GBC CODE: F 101
LOCATION: Kensington Campus — FEE: $295 per year
LENGTH: 3 Years
CERTIFICATION: Diploma
PREREQUISITE: Grade 12 or acceptable equivalent with a minimum standing of 60% in physics, chemistry, mathematics, and English

This program is designed to prepare the student for a career in any one of the many branches of the food processing industry. Thorough schooling in the applied and biological sciences and their application to the processing of food will be offered. Concentrated instruction related to a specific branch of the food industry will be given in the final year.

During the two years, the student will spend 6 semesters of 15 weeks each in academic studies at the College. This accelerated three year program, in two years, will enable the student to complete the program in a minimum time and at a minimal cost. During the six semesters, the student will be required to complete practical field work in the industry. This will assist the graduates in determining which branch of the industry is best suited to their interests and talents.

Opportunities may be found in research and product development, quality control, plant sanitation, production supervision and management, government inspection and regulatory services, technical sales and service, and marketing.

Semester I

		Periods per week
BIO 100	Biology	5
CHEM 102	General Chemistry	5
ENG 100	Language and Communications	3
FT 100	Food Preparation	8
MATH 100	Mathematics	4
PHYS 104	Applied Physics	5
		30

Semester II

		Periods per week
CHEM 102	Chemistry	5
ENG 100	Language and Communications	3
FT 100	Food Preparation	8
MATH 100	Mathematics	4
PHY 100	Physiology	5
PHYS 104	Applied Physics	5
		30

Semester III

		Periods per week
BIO 200	Food Microbiology	6
CHEM 202	Organic Chemistry	6
ENG 210	Communication in Industry	3
FT 200	Food Engineering	3
FT 201	Food Processing	6
INST 111	Instrumentation	3
MATH 200	Mathematics	4
		31

PROGRAM: FOOD PROCESSING TECHNOLOGY (cont'd)

Semester IV		Periods per week
BIO 200	Food Microbiology	6
CHEM 202	Organic Chemistry	6
FT 200	Food Engineering	3
FT 201	Food Processing	6
INST 111	Instrumentation	3
MATH 200	Mathematics	4
ENG 210	Communication in Industry	3
		31

Semester V		Periods per week
CHEM 300	Food Chemistry	3
CHEM 302	Food Analysis	9
FT 301	Food Processing	9
MATH 316	Elementary Statistics	2
SAN 300	Sanitation and Pollution	2
TF 300	Food Quality Control and Evaluation	2
FT 304	Thesis	3
		30

Semester VI		Periods per week
FT 301	Food Processing	9
MATH 316	Elementary Statistics	2
SAN 300	Sanitation and Pollution	2
TF 300	Food Quality Control and Evaluation	2
CHEM 300	Food Chemistry	3
CHEM 302	Food Analysis	9
		27

PROGRAM: HOTEL FRONT OFFICE AND RECEPTION
LOCATION: Kensington Campus
LENGTH: 12 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10; subject to personal interview

GBC CODE: F 548
FEE: $6.25 per week

The front office is the centre of activity in any hotel operation. It is there that the skills of those who enjoy constant contact with the travelling public are put to best use. The course is designed to provide this training for men and women who would like to develop a career in this exciting and expanding industry. In a fully equipped classroom, the student will be trained to function efficiently as a desk clerk, cashier and night auditor as well as acquire a general knowledge of all hotel operations. In addition, students spend one day each week working behind the front desk of an established Toronto hotel.

		Periods per week
HIND 501	Front Office Procedures	7
HIND 502	Front Office Accounting	7
HIND 503	Communications	2
HIND 506	Hotel Law	2
HIND 507	Human Relations	2
HIND 508	Hotel Orientation	2
HIND 509	Work Experience	8
		30

PROGRAM: HOTEL-MOTEL ADMINISTRATION
LOCATION: Kensington Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma or equivalent

GBC CODE: F 104
FEE: $295 per year

The growing hotel and motel industry offers a variety of equally interesting career opportunities. Many of the jobs, possibly the majority in the industry, involve almost continuous contact with the public and require the sort of personality that can readily adapt to the often demanding situations that may arise. However, there are also opportunities for the person with an analytical turn of mind. The course delves into all aspects of hotel and motel management, and thus permits the student to become acquainted with the hotel and motel field as whole so that he can, upon graduation, decide in which particular area he wants to specialize. Graduates of the course will be able to find employment in the front office, sales, catering, beverage, accounting, personnel, and other departments of the hotels and motels, as well as in related areas such as the institutional and restaurant catering field.

Semester I		Periods per week
HIND 100	Hotel Orientation	2
FP 100	Food Preparation I	6
FP 102	Theory of Food I	2
FT 100	Food Production and Standards	3
SAN 100	Sanitation and Hygiene	3
HIND 104	Menu Planning	3
HIND 105	Accounting I	3
MATH 110	Business Mathematics	3
ENG 110	Language and Communications	2
		27

Semester II		Periods per week
HIND 106	Front Office I	4
FP 100	Food Preparation II	6
FP 103	Theory of Food II	2
HIND 103	Food Cost Control	4
HIND 108	Beverage Preparation	2
HIND 110	Wine Comprehension	1
HIND 201	Housekeeping and Engineering	2
HIND 105	Accounting II	3
EC 210	Economics	3
ENG 111	Language and Communications	2
		29

Semester III		Periods per week
HIND 106	Front Office II	5
HIND 200	Hotel Accounting	3
HIND 219	Management of Hotel Operations	3
HIND 217	Computer Orientation	2
HIND 218	Food and Beverage Management	3
HIND 206	Hotel Law	2
HIND 203	Food Facilities Layout	3
DR 156	Blueprint Reading and Drafting	1
HIND 205	Dining Room Service (half semester)	6
HIND 208	Work Experience (half semester)	8
		28

PROGRAM: HOTEL-MOTEL ADMINISTRATION (cont'd)

Semester IV

		Periods per week
HIND 210	Personnel Management	3
HIND 211	Payroll Analysis and Control	1
HIND 212	Advertising and Sales Promotion	3
HIND 213	B.E.L.C.A.P. Computer Program	3
HIND 214	Hotel Interior Design	2
HIND 202	Banquet Management	2
HIND 216	Management Practice	16
		30

PROGRAM: PROPERTY MANAGEMENT - RESIDENTIAL
LOCATION: Kensington Campus
LENGTH: 2 Years (4 semesters)
CERTIFICATION: Diploma
Those persons graduating from this program and who complete "approved industrial experience" as required by the Housing and Urban Development Association of Canada will be eligible for certification as "Residential Property Manager"
PREREQUISITE: Grade 12 or acceptable equivalent (mature applicants preferred); personal interview

GBC CODE: F 105
FEE: $295 per year

Property Management is a highly specialized business. This program is designed to meet the stringent criteria as set out by leaders from the industry through the auspices of Apartment Construction and Management Council of the Housing and Urban Development Association of Canada (H.U.D.A.C.), the Urban Development Institute (U.D.I.), and the Ontario Ministry of Colleges and Universities.

A significant proportion of the program will be conducted on site in industry under the supervision of qualified managers in conjunction with College faculty.

The certified Residential Property Manager is usually responsible for the overall management of from 400 to 1500 suites in one or more buildings. Graduates from this program can anticipate employment at the assistant manager level with ample opportunity to progress rapidly in the field of professional property management.

Semester I

		Periods per week
HOUS 111	Housekeeping	11
ACC 111	Accounting	3
SEC 111	Security and Safety	2
MAIN 111	Maintenance	7
LAW 111	Law	2
ENG 100	Language and Communications	3
MATH 101	Mathematics	2
		30

Semester II

		Periods per week
HOUS 112	Housekeeping	6
INV 111	Purchasing and Inventory Control	3
ACC 112	Accounting	3
SEC 112	Security and Safety	2
REL 111	Resident Relations	2
MAIN 112	Maintenance	8
LAW 112	Law	2
ENG 100	Language and Communications	2
MATH 107	Mathematics	2
		30

PROGRAM: PROPERTY MANAGEMENT - RESIDENTIAL (cont'd)

Semester III

		Periods per week
MARK 111	Marketing	3
ACC 211	Accounting	3
INSR 111	Insurance	2
REL 211	Resident Relations	2
PERS 111	Personnel Management	2
PROP 111	Amenity and Commercial Area Management	2
LAW 211	Law	2
PRAC 111	Management Practice	14
		30

Semester IV

		Periods per week
MARK 112	Marketing	3
ACC 212	Accounting	2
INSR 112	Insurance	2
PERS 112	Personnel Management	2
PROP 111	Amenity and Commercial Area Management	2
LAW 212	Law	2
PRAC 112	Management Practice	17
		30

PROGRAM: RETAIL MEAT CUTTING
LOCATION: Kensington Campus
LENGTH: 20 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10; high standard of personal hygiene

GBC CODE: F 544
FEE: $6.25 per week

Professional meat cutters are employed by the following organizations: independent meat stores, chain store meat departments, hotel and restaurant portion control supply houses, home freezer supply houses, and catering organizations. Graduates of this course, because of their skill and immediate value to an employer, will experience little difficulty in finding an employer of their choice.

		Periods per week
ENG 541	Language and Communications	1
HIND 536	Business Procedure	3
MATH 535	Business Mathematics	2
MC 533	Practical Meat Cutting	18
MC 534	Trade Theory	5
		29

PROGRAM: COMMERCIAL ART
LOCATION: Terraulay Campus
LENGTH: 40 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10 or equivalent; mature students over 19 years of age may be accepted with lower academic standing; all must submit a portfolio of 5 to 10 samples and pass an art test before acceptance

GBC CODE: G 543
FEE: $6.25 per week

A large number of graduates from this course have been placed as junior artists and designers in many of Metropolitan Toronto's commercial art studios, advertising agencies, company advertising departments, and printing specialty houses.

Semester I		Periods per week
GD 500	Foundation Drawing Research	3
GD 501	Foundation Still Life Drawing	3
GD 502	Foundation Lettering and Typography	6
GD 503	Foundation Design	6
GD 504	Foundation Colour	3
GD 505	Foundation Techniques	3
GD 506	Foundation Mechanicals	3
GD 507	Foundation Drawing Perspective	3
		30

Semester II		Periods per week
GD 510	Package Design	6
GD 511	Advertising Design	6
GD 512	Promotional Design	6
GD 513	Corporate Design	6
GD 514	Life Drawing	3
GD 515	Typography	3
		30

PROGRAM: FILM IMPOSITION AND PRINTING
SURFACE PREPARATION FOR TYPOGRAPHERS
LOCATION: Terraulay Campus
LENGTH: 12 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Journeyman typographer with aptitude for accurate, careful hand work and the ability to visualize the finished product at the film stripping stage

GBC CODE: G 574
FEE: $6.25 per week

This is one of the principle areas where there will be an increasing demand in the printing industry, as it converts from letterpress to offset press techniques. Graduates are trained in film stripping and platemaking, including process colour work. All subjects are taught in blocks.

		Periods per week
GR 510	Film Imposition and Printing Surface Preparation (Basic Black and White)	10
GR 511	Film Imposition and Printing Surface Preparation	10
GR 512	Film Imposition and Colour Printing Surface Preparation (Process Colour)	10
		30

PROGRAM: GRAPHIC ARTS (PRINTING TECHNICIAN) GBC CODE: G 101
LOCATION: Terauley Campus FEE: $295 per year
LENGTH: 3 Years
CERTIFICATION: Diploma
PREREQUISITE: O.S.S.G.D. or equivalent; or Ontario Grade 10 with success in high school printing course of Grade 11 or 12; or industrial experience

The graphic arts industry plays an important role in the economy of the Province of Ontario and the City of Toronto in particular. It is experiencing continuous growth within the College environment; the instruction, equipment and facilities enable students to achieve up-to-date proficiency in all phases of operation. Those who enter the printing profession from these programs will be versatile enough to meet the challenge of technological change in the next decade.

All graphic arts printing technician technical courses are presented in a block system. Each technical course requires one block during the academic year. A block is 20 actual successive working days of 4 hours per day. Academic courses are presented simultaneously in a semester system totalling 10 hours per week. A semester consists of four blocks and concurrent academic work.

Semesters I and II (First Year)

GR	100	Layout, Design, Typography
GR	101	Hot Metal Composition
GR	105	Photomechanical Reproduction
GR	110	Film Imposition and Printing Surface Preparation
GR	114	Machine Printing (Letterpress)
GR	115	Machine Printing (Basic Offset)
GR	116	Machine Printing (Offset)
GR	125	Bindery
PHYS	105	Physics (first semester only)
CHEM	105	Chemistry (second semester only)
MATH	105	Mathematics
ENG	100	Language and Communications

NOTE: Students must either type or be prepared to take a 20 hour lumisonic typing course in the first year.

Semesters III and IV (Second Year)

GR	202	Photocomposition, Keyboarding, Tape Processing and Film Processing
GR	205	Photomechanical Reproduction
GR	210	Film Imposition and Printing Surface Preparation
GR	214	Machine Printing (Flexo)
GR	215	Machine Printing (Rotogravure)
GR	216	Machine Printing (Offset)
GR	217	Machine Printing (2 Colour Offset)
GR	225	Bindery
GR	220	Quality Control
GR	250	Electronics
MATH	205	Mathematics
ENG	200	Language and Communications

PROGRAM: GRAPHIC ARTS (PRINTING TECHNICIAN) (cont'd)

Semesters V and VI (Third Year)

TECHNICAL OPTIONS

The student may select one major area and one minor area for technical specialization from the list following:

1. Type Composition (design, mark-up, tape input, advanced keyboard, paste-up, computer peripherals)
2. Photomechanical Reproduction, Film Imposition and Printing Surface Preparation
3. Machine Printing (two colour offset, rotogravure, flexo, die cutting and embossing)
4. Binding and Finishing
5. Quality Control and Statistics

Of the eight technical blocks in third year, six will be in the area of major specialization and two in the area of minor specialization; all will be at the GR 300 level. A major technical report is required.

In addition, related studies in one or more of the following:

Humanities (including studies of the trade union movement), Industrial Psychology and Personnel Relations, Science, Electronics, Business Administration or Graphic Arts Administrative Processes in Cost Estimating and Production Control using various approaches.

PROGRAM: GRAPHIC DESIGN TECHNICIAN GBC CODE:
LOCATION: Terauley Campus FEE:
LENGTH: 2 Years (optional third year)
CERTIFICATION: Diploma after second year; special certificate after third year
PREREQUISITE: O.S.S.G.D. or equivalent; mature students over 19 years of age may be accepted with lower academic qualifications; all must submit a portfolio of 5 to 10 samples and pass an art test before being approved

Metropolitan Toronto is Canada's largest centre for opportunities in advertising art and graphic design. For over seven years we have been placing a very high percentage of graduates in studios, both large and small, in the Toronto area. The opportunity exists for students to develop a complete portfolio of sample work, from design sketches to finished art to printed pieces. This is made possible because the College possesses the largest technical printing training facilities in Canada.

Semester I (First Year)

			Periods per week
GD	100	Still Life Drawing	3
GD	101	Life Drawing	3
GD	102	Lettering	6
GD	103	Design	3
GD	104	Science of Colour	2
GD	105	Museum Techniques	3
GD	106	Mechanicals	3
GD	107	History of Art	1
GD	108	Illustration Techniques	3
GD	109	Typographical Design	3
			30

PROGRAM: GRAPHIC DESIGN TECHNICIAN (cont'd)

Semester II (First Year)

			Periods per week
GD	100	Still Life Drawing	3
GD	101	Life Drawing	3
GD	102	Lettering	6
GD	104	Science of Colour	2
GD	105	Museum Techniques	3
GD	107	History of Art	1
GD	108	Illustration Techniques	3
GD	109	Typographical Design	3
GD	111	Studio Graphics	6
			30

Semesters III and IV (Second Year)

			Periods per week
GD	201	Illustration	3
GD	202	Abstract Design	3
GD	204	Printmaking	3
GD	205	T.V. Graphics	3
GD	207	History of Art	1
GD	209	Life Drawing	3
GD	211	Studio Graphics	6
GD	212	Advertising Design	5
GD	213	Photographic Design	3
			30

Semesters V and VI (Third Year)

GD	302	Illustration
GD	303	Printmaking
GD	304	Package Design
GD	305	T.V. Graphics
GD	306	Advertising Design
GD	307	Photographic Design

GRADE POINTS FOR SEMESTERS

Points for semesters V and VI will be decided after the student submits his program indicating the time he wishes to spend on each particular subject.

Third year Graphic Design students may select an option of 30 hours and 22 credits in one subject area, or any combination from subject areas totalling 30 hours and 22 credits per semester.

PROGRAM: OFFSET PRINTING
LOCATION: Terraulay Campus
LENGTH: 40 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10 or acceptable equivalent of industrial experience

GBC CODE: G 542
FEE: $6.25 per week

This short technical program is designed to train an offset pressman in the operation of various types of small offset presses likely to be encountered in captive plants or small printing shops. Learning the preparatory processes of typesetting, line and half-tone reproduction, printing surface preparation, binding and finishing, as well as press operation, will enable the graduate to obtain optimum results from the equipment available at an employer's print shop. All subjects are taught on a block system. Time is divided - 50% Offset Press, 25% Camera and Stripping, and 25% Copy Preparation, Letterpress and Bindery.

			Periods per week
GR	530	Copy Preparation (Hot Metal Composition and Paste Make-up)	4
GR	534	Process Camera Operation	2
GR	536	Stripping and Plate Making	5
GR	538	Machine Printing (Letterpress)	4
GR	540	Machine Printing (Offset)	14
GR	542	Binding and Finishing	1
			30

PROGRAM: OFFSET PRINTING FOR LETTERPRESSMEN
LOCATION: Terraulay Campus
LENGTH: 12 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Sufficient experience as a letterpress journeyman

GBC CODE: G 570
FEE: $6.25 per week

This one semester program is designed to meet the specific needs of the graphic arts industry to retrain letterpress journeymen for offset pressmanship and offset platemaking. Although this program is short, it is very intensive and provides adequate practical experience on a variety of medium and large size single colour offset presses. Basic platemaking procedures are included. Subjects are taught sequentially.

			Periods per week
GR	515	Machine Printing (Basic Offset)	10
GR	516	Machine Printing (Offset, Single Colour Presses - Basic)	10
GR	517	Machine Printing (Offset, Single Colour Presses - Advanced)	10
GR	518	Machine Printing (Process Colour) Optional Extra	
			30

PROGRAM: PHOTOCOMPOSITION AND PASTE-UP ASSEMBLY FOR TYPOGRAPHERS
GBC CODE: G 572
LOCATION: Terauley Campus
FEE: $6.25 per week
LENGTH: 12 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Journeyman status as a typographer, an aptitude for careful, accurate handwork, and the ability to visualize the finished product at the paste-up stage; mechanica aptitude and ability to learn basic binary logic as measured by IBM data processing test

A survey of the printing industry by The Toronto Typographical Union indicates that these are areas of increasing demand as the industry converts to new techniques in composition and preparation methods. All subjects are taught in a modular system.

		Periods per week
TYP 552	Typing (including Lumisonic Typing)	5
GR 502	Tape-Keyboarding and Tape-Processing	17.5
GR 508	Theory of Photo-Typesetting Equipment	1.5
GR 504	Paste-up Assembly	6
		30

PROGRAM: PHOTO REPRODUCTION FOR TYPOGRAPHERS
GBC CODE: G 573
LOCATION: Terauley Campus
FEE: $6.25 per week
LENGTH: 12 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Journeyman typographer and aptitude for camera work

This is one of the main areas where there is a growing demand in the printing industry. Although this program is short, it is very intensive and provides adequate practical experience in black and white reproduction. All subjects are taught in a block system.

		Periods per week
GR 505	Photomechanical Reproduction (black and white basic)	10
GR 506	Photomechanical Reproduction (black and white intermediate)	10
GR 507	Photomechanical Reproduction (advanced)	10
		30

PROGRAM: SCREEN PRINTING
GBC CODE: G 540
LOCATION: Terauley Campus
FEE: $6.25 per week
LENGTH: 40 weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10 or equivalent; mature students with aptitude as assessed by the instructor may be accepted with lower academic standing

Screen printing is a rapidly growing segment of the specialized printing industries. Plastic, glass and metal surfaces; packaging, textiles and wallpapers; signs and advertising posters; and printed circuits are all produced by this process. Those with artistic and mechanical aptitude do particularly well at this work. All subjects are taught in a modular system.

Semesters I and II		Periods per week
SP 526	Basic Principles of Layout, Design and Typography (first semester)	(3)
SP 527	Photomechanical Reproduction (Line, Half-Tone, Basic Process Colour Reproduction) (second semester)	(3)
SP 528	Film Imposition, Stencil Cutting and Screen Preparation	13
SP 529	Manual and Mechanized Screen Printing Paper and Board	11
SP 530	Mechanized Screen Printing (Other Substrates such as plastics, glass, wood, metal, cloth, self-adhesive films)	3
		30

PROGRAM: SIGNWRITING
GBC CODE: G 546
LOCATION: Terauley Campus
FEE: $6.25 per week
LENGTH: 40 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Ontario Grade 10 or a combination of education and experience considered equivalent by the admissions office, plus a portfolio and/or an aptitude test

In addition to sign and screen printing companies, plastic sign and display companies, many large department stores, manufacturing companies, advertising agencies and retail outlets maintain a staff of signwriters to produce new signs, posters and advertising displays.
Although the competition in this vocation is vigorous, there is ample opportunity for those who show creative ability and commercial effectiveness in their work.

Semester I		Periods per week
SIGN 530	Basic Signwriting	16
SIGN 531	Basic Show Card Writing and Pen Lettering	9
SIGN 532	Introduction to Layout and Colour	5
		30

Semester II		Periods per week
SIGN 533	Signwriting	16
SIGN 534	Show Card Writing and Pen Lettering	7
SIGN 535	Design and Layout	4
SIGN 536	Colour	1
SIGN 537	Screen Process Printing (for the sign and show card industry)	1
SIGN 538/539	Introduction to Gold Leaf and Plastic Signs	1
		30

OTHER SKILL PROGRAMS

PROGRAM: COMMERCIAL VEHICLE DRIVING — GBC CODE: ST 574
LOCATION: Casa Loma Campus — FEE: $6.25 per week
LENGTH: 3 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Good physical condition; ability to follow instructions in English

Students receive training in the safe operation of 5-ton standard commercial vehicles so necessary to enter the field of road transportation. To be eligible for the program, applicants must possess a chauffeur's licence, an elementary education and good health.

VEH 510 Commercial Vehicle Operation

PROGRAM: TRACTOR TRAILER DRIVER — GBC CODE: ST 575
LOCATION: Casa Loma Campus — FEE: $6.25 per week
LENGTH: 4 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Must have been employed as a driver of a standard commercial vehicle for not less than one year; in possession of a chauffeur's licence; able to pass a driving test

With modern driving becoming involved and often hazardous, a scientific approach in this field provides drivers with current knowledge in the latest methods of safe and economical operation. A knowledge of air brakes, multi-range transmissions and tachometers will help drivers to maintain total control of the vehicle on the modern high-speed highway.

VEH 511 Tractor Trailer Driving

LANGUAGE TRAINING

PROGRAM: ENGLISH AS A SECOND LANGUAGE — GBC CODE: LT 540
LOCATION: College Street Campus — FEE: $6.25 per week
LENGTH: 24 Weeks Maximum
CERTIFICATION: Letter
PREREQUISITE: None

The aim of this program is to provide the adult New Canadian with a level of fluency in English which will allow him to obtain appropriate employment.

The course emphasizes oral performance. The development of literacy skills is fostered to the degree relevant to the student's background and goal.

PROGRAM: FITNESS INSTRUCTOR
LOCATION: Casa Loma Campus
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: O.S.S.G.D. or equivalent including Mathematics and English at the senior level.

GBC CODE: PE 140
FEE: $295 per year

This program will train men and women in the operation of facilities offered by fitness agencies; it pays special attention to physical testing procedures and the designing of exercise programs needed to produce the type of conditioning desired.

There will be extensive laboratory experience to enable the students to encounter at first hand the problems inherent in human physical fitness.

Semester I (First Year)		Periods per week	
		Lecture	Lab
CHEM 102	Biochemistry	2	2
BIO 101	Biology	2	1
MATH 108	Mathematics	3	1
ENG 100	Language and Communications	1	1
AQUA 100	Aquatic Skill Development		2
ANAT 102	Anatomy	4	
FIT 100	Introduction to Fitness Testing	3	2
FIT 102	Applied Exercise Technique		4
HEAL 101	Athletic Injuries		2
		15	15
			TOTAL 30

Semester II (First Year)			
NUT 101	Introduction to Nutrition	3	
FIT 100	Fitness Testing Theory	3	3
MATH 118	Statistics	3	1
ENG 100	Language and Communications		2
AQUA 100	Aquatic Skill Development	1	2
ANAT 102	Anatomy	4	
SOC 101	Sociology	2	1
FIT 102	Applied Exercise Technique		3
HEAL 101	Athletic Injuries		2
		16	14
			TOTAL 30

Semester I (Second Year)			
NUT 201	Nutrition	1	2
FIT 201	Advanced Fitness Testing	3	3
PSY 200	Introduction to Psychology	3	
HEAL 201	Athletic Injuries		2
ANAT 202	Kinesiology	2	2
FIT 202	Practical Testing		3
HEAL 202	Advanced Exercise Technique	2	4
HEAL 203	Health Club Management	1	2
		12	18 TOTAL 30

PROGRAM: FITNESS INSTRUCTOR (cont'd)

Semester II (Second Year)		Periods per week Lecture	Lab
NUT 201	Nutrition	1	2
FIT 201	Advanced Fitness Testing	4	4
PSY 200	Psychology - Motivation	3	
HEAL 201	Athletic Injuries		2
FIT 202	Practical Testing		4
ANAT 202	Kinesiology	2	2
HEAL 202	Advanced Exercise Technique	2	4
		12	18
			TOTAL 30

PROGRAM: REGISTERED NURSE - CRITICAL CARE GBC CODE: NU 400
LOCATION: St. Michael's Hospital Campus FEE: $150
LENGTH: 21 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Registration as a nurse in the Province of Ontario; one year's nursing practice experience within the past 3 years

By utilizing a holistic approach, this program prepares the registered nurse to care for the critically-ill patient with additional competence. Supervised clinical practice is selectively correlated with in-depth theory. Classes are accepted twice annually; in February and in August.

		Periods per week
CCCN 400	Current Concepts	2
HBE 400	Human Behaviour	2
ANT. 400	Advanced Nursing Theory	8
OM 400	Organization and Management Concepts	2
ACP 400	Advanced Clinical Practice	18
		32

PROGRAM: REGISTERED NURSE - OPERATING ROOM GBC CODE: NU 401
LOCATION: St. Michael's Hospital Campus FEE: $150
LENGTH: 21 Weeks
CERTIFICATION: Certificate
PREREQUISITE: Registration as a nurse in the Province of Ontario; one year's nursing practice within the past 3 years

This program is designed to prepare the registered nurse to be a team leader, or charge nurse, in the operating room theatre. Upon completion of this program, the nurse will also be able to give and supervise care in a recovery room where patients require close monitoring of their vital processes immediately following surgery. Classes are accepted twice annually; in February and in August.

		Periods per week
HBE 401	Human Behaviour	1
OR 401	Safe Practice	2
ANT 401	Advanced Nursing Theory	5
OM 401	Organization and Management Concepts	3
PSI 401	Problem Solving	1
ACP 401	Advanced Clinical Practice	18
		30

PROGRAM: GRADUATE NURSE - UPGRADING — GBC CODE: NU 402
LOCATION: Toronto General Hospital Campus — FEE: $20; plus $6 per week
LENGTH: See Below
CERTIFICATION: Certificate
PREREQUISITE: Graduation from a two year nursing program in the Province of Ontario
Graduates from outside Ontario must receive a ruling from the College of Nurses of Ontario before making application

This program is designed to assist a) graduate nurses who require review in one or more areas before re-writing the College of Nurses of Ontario examinations;
b) graduates who have failed the nursing registration examinations for Ontario;
c) graduates from outside Ontario who require additional courses to satisfy Ontario registration requirements;
d) graduate nurses registered in Ontario who have not practised for a significant period of time. All students must complete a four week module reviewing the basics of nursing theory. Individual needs will determine the selection of one or more 8 week modules that combine theory and practice. Classes are accepted three time annually; in September, in January and in April.

Review of the Basics of Nursing Theory	4 weeks
Medical-Surgical Nursing - Theory and Practice	8 weeks
Paediatric Nursing - Theory and Practice	8 weeks
Maternity Nursing - Theory and Practice	8 weeks
Psychiatric Nursing - Theory and Practice	8 weeks

Average hours per week will total 20 to 25.

PROGRAM: NURSING — GBC CODE: NU 101
LOCATION: See Below — FEE: $295 per year
LENGTH: 2 Years
CERTIFICATION: Diploma
PREREQUISITE: Ontario Secondary School Graduation Diploma with two credits at the senior level in Physics, Chemistry or Biology. A personal interview and an assessment of academic ability and suitability for nursing is mandatory.

The nursing program prepares diploma nurses who are eligible to write the Ontario Nurse Registration Examinations in order to be registered to practise nursing in the Province of Ontario.

The program extends over two years and consists of approximately 45 weeks of planned learning experiences plus 7 weeks of vacation each year.

First Year:

Courses in Nursing Theory, Biological Sciences, the Humanities, and Social Sciences are integrated with related clinical practice.

Second Year:

Further courses in the Biological Sciences, the Humanities, and Social Sciences are studied. Nursing courses focus on increasing the depth of knowledge of nursing theory, its application in practice, and the development and refining of precise nursing skills. The year ends with a consolidation experience during which the student works closely with nursing service personnel.

PROGRAM: NURSING (cont'd)

Locations of Program:

The program is offered on five (5) campuses of the George Brown College, which are as follows:

Campus	Potential First Year Enrollment
Nightingale Campus 2 Murray Street	70 - 75
St. Joseph's Hospital Campus 50 Sunnyside Avenue	110
St. Michael's Hospital Campus 35 Shuter Street	120
Toronto General Hospital Campus 90 Gerrard Street West	180
Toronto Western Hospital 399 Bathurst Street	100

Further information can be obtained from the Admissions Officer (Nursing), P.O. Box 1015, Station B, Toronto M5T 2T9. Applicants should indicate their campus preference, if applicable.

APPRENTICESHIP PROGRAMS

Apprenticeship is a systematic program of on-the-job learning along with related classroom instruction; this combination of practice and theory is designed to produce a fully-qualified tradesman, who is frequently referred to as a journeyman.

The apprentice earns while he learns. Depending on the grade, the length of the apprenticeship program varies from two to five years.

For further information about apprenticeship programs, please contact the Manpower Training Branch, Ministry of Colleges and Universities, 558 Yonge Street, Toronto Ontario. Telephone (416) 965-3866.

The George Brown College is involved in apprenticeship programs listed on opposite page.

* Read: 5 periods of 1800 hours each period.

\# Read: 8 weeks at the basic level, 7 weeks at the intermediate level and 7 weeks at the advanced level.

\+ All apprentices graduating from the electrician program (No. 8 above) may take this program (No. 9) on a voluntary basis; it is offered during the fifth 1800-hour period of the electrician's program.

	Educational Prerequisite	Total Length of Program in Hours	College Classroom Time in Weeks
1. Refrigeration and Air Condition Mechanic	Equiv. Gr. 10	* 5 x 1800	8 - 7 - 7
2. Baker	Equiv. Gr. 8	2 x 2000	# 15 - 15
3. Barber	Equiv. Gr. 9	3 x 1500	18
4. Brick and Stone Mason	Equiv. Gr. 8	4 x 1800	8 - 7 - 7
5. Carpenter - Regular	Equiv. Gr. 10	3744 hr. min. 7200 hr. max.	9 - 8 - 7
6. Carpenter - General	Equiv. Gr. 10	3744 hr. min. 7200 hr. max.	10 - 10 8 - 8
7. Cement Mason	Equiv. Gr. 8	3 x 2000	15 - 15
8. Electrician (Construction and Maintenance)	Equiv. Gr. 10	3 x 2000	15 - 7 - 8
9. Electronics Mechanic (Industrial Control)	Equiv. Gr. 10	5 x 1800	7 - 7 - 8
11. Glazier and Metal Mechanic	Equiv. Gr. 10	4 x 2000	7 - 7 - 8
12. Hairdresser	Equiv. Gr. 9	3 x 1500	8 - 8 - 7
13. Ironworker (17 years of age)	Equiv. Gr. 10	3 x 2000	8 - 7 - 7
14. Lather	Equiv. Gr. 10	3 x 2000	10 - 10
15. Machinist	Equiv. Gr. 10	4 x 2000	8 - 7 - 7
16. Millwright	Equiv. Gr. 10	4 x 2000	8 - 7 - 7
17. Painter and Decorator	Equiv. Gr. 10	4 x 1800	8 - 7 - 7
18. Plasterer	Equiv. Gr. 8	4 x 1800	8 - 7 - 7
19. Plumber	Equiv. Gr. 10	5 x 2000	8 - 7 - 7
20. Radio and TV Service Technician	Equiv. Gr. 10	4 x 2000	18 - 18
21. Retail Meat Cutter	Equiv. Gr. 10	2 x 2000	18
22. Sheet Metal Worker	Equiv. Gr. 10	5 x 1800	8 - 7 - 7
23. Sprinkler and Fire Protection Installer	Equiv. Gr. 10	5 x 2000	7 - 7 - 8
24. Steamfitter	Equiv. Gr. 10	5 x 1800	8 - 7 - 7
25. Structural Steel Draftsman	Equiv. Gr. 10	5 x 2000	8 - 7 - 7
26. Toolmaker	Equiv. Gr. 10	4 x 2000	8 - 7 - 7
27. Watch Repairer	Equiv. Gr. 10	3 x 1800	24 - 8

ACC 100 / Introduction to Accounting I

Accounting cycle including columnar journals, subsidiary ledgers, work sheet, adjusting and closing entries. Financial statements. The voucher system and internal control. Cash and accounts receivable. Notes and interest. Valuation of inventories. Depreciation and depletion. Payroll Accounting.

ACC 101 / Introduction to Accounting II

Partnership accounting. Corporations: organization and operation; stock transactions; retained earnings and consolidations. Long-term liabilities. Accounting for investments. Departmentalization and control. Manufacturing accounting.

ACC 102

Topics include partnerships and corporations, long-term liabilities, departmental and manufacturing accounting, budgeting, taxation, interpretation of financial statements, managerial divisions. Emphasis will be on accounting from the point of view of management analysis and control.

ACC 103 / Accounting in an E.D.P. Environment

Attention is given to the use of financial data by management in decision making. Additional topics include (a) data preparation requirements for input to an electronic system, (b) reports and other output from the system, (c) control problems arising from automation and procedures designed to minimize these problems, (d) techniques for auditing electronic systems.

ACC 105 / Accounting - General S.S.

An introductory course designed to familiarize the student with the basic fundamentals of double-entry bookkeeping up to the preparation of a trial balance.

ACC 106 / Accounting - Legal S.S.

This course covers the basic fundamentals of double-entry bookkeeping up to and including the preparation of a trial balance, and applies these principles to the bookkeeping needs of a legal form.

ACC 107 / Accounting - Medical S.S.

This course covers the basic fundamentals of double-entry bookkeeping up to and including the preparation of a trial balance and applies these principles to the bookkeeping needs of the medical profession.

ACC 111/112/211/212 / Accounting

Maintain petty cash. Compare actual costs versus budget. Control cash receipts. Prepare deposit slips. Collect accounts receivable. Report income and expenses. Record income and expenses. Prepare records of income and expenses. Interpret profit and loss statement. Compare actual costs and revenue with budget and industry standards. Allocate costs due to resident abuse. Arrange remittance due to resident (interest on deposit) Control cash flow. Interpret property assessment and taxes. Forecast rental and sundry income. Forecast operational expenses. Forecast capital expenditures. Prepare budgets.

ACC 200 / General Accounting I

The emphasis is on accounting from the point of view of management analysis and control. Topics include capital and debt structure of a limited company, analysis of financial statements and statements of sources and applications of funds, taxes and their influence on business decisions, budgeting and its use by management for planning and control.

ACC 201 / Accounting Systems

This course is designed to familiarize the student with (a) the information needs of management, (b) reports issued to management for decision making, (c) information systems for collection of data, and (d) the principles and philosophies involved in systems design and installation.

ACC 202 / Cost Accounting I

The aims of this course are (a) to teach the basic concepts and principles of cost accounting, (b) to teach the concepts of materials, labour and overhead es applied to cost accounting, (c) to develop cost accounting techniques to be applied to the solution of problems and case studies.

ACC 203 / General Accounting II

The aim of the course is to familiarize students with management accounting through the application of financial accounting. Topics include changes in working capital, statements of cash flows, break-evens; variables, analysis, measurements, ratios, short and long-term budgets, present value of cash flows and comparison of long range alternate plans, return on capital.

ACC 204 / Cost Accounting II

The aims of the course are (a) to develop and expand on the cost accounting principles introduced in ACC 202, (b) to develop costing techniques for budgeting control of materials, labour and overhead, (c) to teach the principles of process cost accounting and cost of production reports, (d) to instruct on the preparation of budgets; also cash flows, commercial expenses and forecast statements.

ACC 205 / Auditing and Taxation

Principles and practices of auditing, with particular emphasis on the understanding of a good system's design and the evaluation of internal control. Year-end verifications of assets and liabilities. Income Tax Act and its regulations. Preparation of individual and corporate tax returns. Taxation theory.

ACOUSTICS

ACOU 200 / Environmental Acoustics

A basic course in sound science: a review of the physics necessary to provide a background to the Physics of Sound; Physics of Sound; Physiology of the Ear; Hearing; Psychology of Hearing. An introduction to the measurement of Sound and noise; Hearing Protection; Audiometry.

An examination of Federal, Provincial and Municipal Laws, Building Codes and Noise Abatement Standards; Workmen's Compensation Laws re - Hearing Protection, Hearing Loss and Deafness - case studies.

ACOU 201 A and B / Sound and Vibration Analysis

A detailed study of the construction, use and maintenance of the instruments for the measurement and analysis of sound and noise; the techniques of measurement, analysis and reporting of sound and noise.

ACOU 203 / Vibration and Shock Analysis & Control

A detailed study of Vibration, Low Frequency Noises and of Noises of Short Duration - Impact Noises: the Construction, Use and Maintenance of the instruments for the measurement and analysis of Vibration and Shock; an examination of the technique of Shock and Vibration Control.

ACOU 205 A and B Acoustical Properties of Materials

An examination of the reflective and absorptive properties of common building materials; Architectural and Industrial Sound and Noise Control materials; materials and objects used in Interior Decorating and Office Landscaping.

ACOU 206 / Noise Control Standards

An examination of Federal, Provincial and Municipal Laws, Building Codes and Noise Abatement Standards; Workman's Compensation Laws re - Hearing Protection, Hearing Loss and Deafness - case studies.

ACOU 211 A / Noise Control I

The acoustic aspects of Architectural design: transmission of sound through walls, floors and ceilings; reflection of sound in rooms, reverberation, absorption, echo and whispers, accoustical control of air bourne sounds through room and building design.

An examination of the reflective and absorptive properties of common building materials; architectural and industrial sound and noise control materials; materials and objects used in interior decorating and office landscaping.

ACOU 211B / Building Acoustics II

An examination of the mechanical systems in a building; the generation, transmission and control of noise from heating and air-conditioning systems; water and plumbing noises, rotodynamic noise.

A detailed study of vibration, low frequency noises and of noises of short duration - impact noises: the construction, use and maintenance of the instruments for the measurement and analysis of vibration and shock; and examination of the technique of shock and vibration control.

ACOU 213 A and B / Acoustics Laboratory

A workshop on the Measurement Analysis and Control of Sound, Noise and Vibration; Measurement of Ambient Noise Levels indoors and outdoors; Noise Zones and Surveys; measurement and analysis of Vehicular, Contruction and Industrial noise; Noise from Consumer Products; Control of air bourne and transmitted noise in buildings; Measurement and control of Vibration, Impact Noise and Rotodynamic Noise.

ACOU 214 A and B / Acoustics Systems Design

Review of drafting fundamentals. Architectural and structural symbols and conventions. Study of national building codes. Preparation of working drawings as related to acoustics. Materials used in construction.

Mechanical drawing techniques including symbols and conventions for layouts of heating, ventilating, air conditioning, plumbing, piping and electrical systems as used in building construction with special attention to acoustical problems. Materials used in construction.

ADVANCED CLINICAL PRACTICE

A.C.P. 400

Supervised experience in critical care units.

A.C.P. 401

Practical experience in the operating room theatre and related areas.

ADDICTION COUNSELLING

AD 100 / Field Practice

Field practice is an integral part of the program in affording students supervised clinical experience in a variety of settings. Field experience is considered an essential concomitant to the behavioural sciences.

AD 101 / Human Growth and Behaviour

A sequential view of the process of human growth and personality development as a means to develop some understanding of the physical, socio-cultural and emotional aspects of development throughout the life span.

AD 102 / Group Process

Students meet regularly in a group seminar, thus experiencing the dynamics of group interaction. The group process is used as interpretive behavioural material.

AD 103 / Social Issues, Problems and Services

A study of the development and adaptation of institutions in response to community needs and pressures. Levels of responsibility: federal, provincial, municipal and private. The development of agencies providing education, health, welfare and other forms of service. Philosophies concerning the role of law in controlling alcohol and drug use, and the relevant legislation.

AD 104 / Pharmacology and Physiology

Pharmacology: The program should provide students with information and experience which will alter their attitudes and values toward the use of drugs in such a way that patients in turn will be influenced to improve their attitudes toward drugs through the natural interchange of thought occurring in treatment sessions. Physiology: Basic concepts of anatomy and physiology; how the body is involved with drugs and how it functions with and without their influence.

AD 105 / Basic Studies in Addictions

A study of mind altering drugs. Why man uses drugs; religions, medical endurance, enhancing and recreational. A study of the chemophilic age.

AD 106 / Theory, Methods and Practice of Therapy

A study of the therapeutic procedures and treatment philosophies related to personality patterns: Freudian theories of personality development will be used as a base from which to analyse the development of current treatment philosophies including those of Adler, Jung, Erikson, Rogers, Maslow, Glasser and others. Various techniques used in practice in individual group and family therapy will be demonstrated.

AD 107 / Introductory Sociology

A survey of the field of sociology; culture and society, institutions, organizations, ecology and population, disorganization and deviant behaviour, ethnic communities and other aspects of group living.

AD 108 / Values, Ethics and Professionalism

The purpose of this course is to encourage study and examination of the values and value conflicts involved in being a counsellor and how these values relate to professional practice.

AD 110 / English (Optional)

For students who wish to improve their verbal and writing skills.

AD 200 Field Practice - Continuation of AD 100

AD 201 / Human Growth and Behaviour, Abnormal Development

A sequence of AD 101, the emphasis here is on abnormal development and dysfunction.

AD 202 / Group Process - Continuation of AD 102

AD 206 / Theory, Methods and Practice of Therapy - Continuation of AD 106

AD 207 / Sociology

Sociology of institutions. Special emphasis on the functions of the family as it is understood in various ethnic communities. The changing role of the family. The sociology of deviant behaviour.

AD 209 / Research and Independent Studies

A study of research models and their applications; critical appraisal of research results. Students will conduct a study in a related area of special interest to them.

AD 211 / Community Practice

Application of the therapeutic "Growth" model to community problems and dysfunction.

AIR 100 / Refrigeration

Effect of heat; expansions of solids, liquids and gases, change of state, latent vs. sensible heat. Heat measurements; basic system components; construction and use of pressure - enthalpy diagram; interelationship of system components using P-H diagram. Types of compressors; types of evaporators; types of condensers; importance of head pressure control; air side and refrigerant side methods, system operating controls; system safety controls.

AIR 105 / Air Conditioning

Review of basic principles of physics pertaining to air conditioning; air and human comfort, factors affecting comfort of human beings. Use of psychrometric chart. Effects of external and internal shading devices. Basic heating and cooling load calculations by various methods and for various types of structure. Principles of distribution system design for various types of residential application. Introduction to ventilation and use of the equal friction chart.

AIR 107 / Hydronic Heating

Characteristics of heat, body comfort, and construction materials. Heat loss calculations by I. B. R. "Detailed" and "Modern" methods. Types of hydronic systems and component characteristics. Design of systems.

AIR 108 / Instrumentation

Use of instruments used in the operation and testing of heating, cooling and air conditioning systems.

AIR 109 / Electrical Fundamentals

Fundamentals of electricity as applied to heating, cooling and air conditioning systems.

AIR 200 / Refrigeration

Use of manufacturers data to select cooling towers and related equipment. Study of unitary, commercial industrial equipment, heat pumps. Use of psychrometrics chart in the selection of cooling coils. Refrigeration piping practice, sizing of refrigeration practice, sizing of refrigeration piping for allowable pressure drop and oil return to the compressor. Continuation of laboratory work of first year in system construction and analysis, testing, operating reports.

AIR 201 / Automatic Controls

Electric control circuits: two wire control circuits, three wire control circuits, floating and proportional control circuits. Electronic control circuits, electronic control units, and pneumatic control units. Commercial control systems: zone control for heating, control of unit heaters and ventilators, control of commercial vented fan heating and cooling systems, control of peripheral air conditioning units.

AIR 203 / Air Conditioning Systems

Heating and cooling load calculations. Use of psychrometric chart, Air quantities for cooling requirements; effect of storage zoning, and pendulum effect, equipment selection. Central station: chillers, coils, heating and cooling, fans, refrigeration, unitary equipment. Water and air cooled rooftop units. Split systems. High pressure dual duct and induction systems: noise and vibration control.

AIR 205 / Estimating

Take-off mechanical working drawings for duct work, piping layouts and machine room layout. Bill of materials and costing for air conditioning of a commercial building and preparation of sales proposal.

ANATOMY

ANAT 100 - Anatomy and Physiology

This is an introductory course in elementary human anatomy and phsiology taught with emphasis on the spelling of normal terms and their meaning in context. There is some laboratory work.

ANAT 101 - Medical Terminology

This is an introductory course in the study of common abnormal conditions taught with emphasis on the spelling of medical terms and their meanings in context. Prerequisite is ANAT 100.

A.N.T. 400 Advanced Nursing Theory

The handling of the critically-ill patient including respitory, cardiovascular and renal problems.

A.N.T. 401 Advanced Nursing Theory

Advanced Nursing Theory as it related to the care of the patient in the surgical cycle and emergency situations in the operating room theatre.

ARCHITECTURAL TECHNOLOGY

ARCH 100 / Materials and Methods

The manufacture and use of cement, steel, brick, clay, wood and other building products.

ARCH 200 / Materials and Methods

Advanced methods and applications of building materials and products.

ARCHITECTURAL DRAFTING

ARDR 102 / Architectural Drafting I

Preparation of working drawings of plans, sections, elevations and details of frame and masonry construction; perspective drawings; rendering and model making.

ARDR 106 / Architectural Drafting I

Introduction to dimensions, symbols and conventions; methods and materials for light construction; study of the National Building Code, in conjunction with the preparation of working drawings.

ARDR 107 / Mechanical Installation Drafting I

Mechanical drawing techniques or plumbing, drainage, types of hot water heating, air handling, and water supply.

ARDR 108 / Structural Drafting I

Structural steel: Design of simple beams, simple connections, detailing practices. Reinforced Concrete: Framing plans; detailing beams, slabs, walls, bar schedules.

ARDR 109 / Electrical Installation Drafting I

Studies of residential, commercial and industrial wiring systems in single and three-phase layout.

ARDR 111 / Mechanical Installations Drafting

Mechanical drawing techniques of plumbing, drainage, heating, air conditioning and electrical layout pertaining to building construction.

ARDR 112 / Drafting

Three-view drawing, alphabet of lines, dimensioning, sections, free-hand sketching, isometric drawing. Introduction to architectural drawing, types of construction, materials and structural members.

ARDR 115 / Structural Drafting

Interpretation and preparation for design drawings of structural steel and reinforced concrete structures.

ARDR 120 / Descriptive Geometry I

Theory of multiview projection; auxiliary views; points, lines and oblique surfaces in space; true length and true shape considerations; edge views, slopes, and angles.

ARDR 121 / Descriptive Geometry

Orthographic projection, isometric sketching, auxiliary and revolution methods, practical applications.

ARDR 124 / Drafting

The principles of engineering drawing, geometrical construction, orthographic, axonometrics, and oblique projection, dimensioning, sections and auxiliary views. Reading of architectural plans, introduction to piping and duct layout for ventilation, heating and air conditioning systems. Graphical representation of electrical wiring diagrams.

ARDR 154 / Art and Presentation

Freehand sketching, pictorial drawing, technical illustrating and model making.

ARDR 202 / Architectural Drafting II

Presentation and working drawings of commercial and institutional buildings, utilizing up-to-date procedures from actual case studies.

ARDR 220 / Descriptive Geometry II

Plane surfaces, intersections relating to lines, planes and figures, dihedral angles, revolutions, parallel and radial line development, triangulation and vectors,

ARDR 221 / Descriptive Geometry

Practical problems and drawing practices involving lines, planes, angles, intersections and curves.

ARDR 228 / Air Conditioning and Refrigeration

Principles of refrigeration, types of systems, system design, combination systems.

ARDR 229 / Heating Systems

Principles of operation, types of systems, system design, fuel supply.

ARDR 230 / Plumbing Systems

Principles of design of various systems, including materials and methods.

ARDR 232 / Drafting

Systems of piping drawing, including piping symbols with drawing and sketching in multiview, isometric and oblique. Duct layout showing graphical symbols for heating, ventilating, air conditioning, plumbing, piping, valves and fittings. Reading mechanical architectural and structural plans.

APPAREL TECHNOLOGY

AT 100 / Work Management I

Methods, time and motion studies with emphasis on sewing and cutting operations.

AT 101 / Work Management II

Standard data (sewing machine operators) - work station design and efficiency.

AT 121 / Industrial Organization I

Structure of the apparel industry including the flow of materials from fibre to finished garment in the consumers' hands.

AT 122 / Industrial Organization II

Structure and anatomy of various apparel plants in men's, women's, children's and accessory fields.

AT 151 / Apparel Machine Technology I

Seaming and the machines - construction of various seams - tensions - threads - needles, etc.

AT 152 / Apparel Machine Technology II

Some mechanics of sewing machines; history; justifying purchase, variations, efficient uses and common repairs.

AT 161 / Operator Training I

Includes SEW 141, plus techniques for training production employees, single-needle sewing machine; selection, orientation, evaluation of operators and cutters (Performance Objectives).

AT 162 / Operator Training II

Applying production standards and establishing wage rates (hourly and piece-work), work incentives, motivation, etc.

AT 171 / Apparel Production Management I

Human Relations as practiced in the efficient apparel plant and workroom; division of work and work loads; scheduling, etc.

AT 172 / Apparel Production Management II

Labor management and relations; unions, Provincial Industrial Standards Act, minimum wages, rating employees, etc.

AT 181 / Basic Math

For understanding computer operations.

AT 182 / Computer Mathematics

Elementary programming.

AT 191 / Computers

Systems; Justification and Uses in Apparel Industry.

AT 200 / Work Management III

Section work and layouts for most efficient work flows in cutting room, sewing room, etc.

AT 201 / Work Management IV

Plant layout including inventory control and shipping room; scheduling shifts, co-ordinating section; transporters, etc.

AT 221 / Apparel Marketing

Consumer spending, Patterns, etc.

AT 222 / Merchandising

Apparel seasons, Cycles, Planning A Line, etc.

AT 231 / Government Programs

AT 241 Import - Export (Apparel)

World Markets.

AT 242 / Statistical Theory

Sampling; Quality Control

AT 251 / Apparel Machine Technology III

Marking and cutting procedures; spreading machines; techniques of laying out fabric, marker-making (mechanical and electronic).

AT 252 / Apparel Machine Technology IV

Apparel construction sequences (men's, women's, children's wear) ; quality control; introduction to sophisticated machinery (numerical control, computer assisted, etc.).

AT 253 / Apparel Merchandising

Computer uses in office; mark-up, etc.

AT 260 / Apparel Plant Supplies

Study of supplies and accessories, materials used in apparel construction and the garment itself; evaluating supplies for purchase; methods of purchasing - quantities, storage, etc.

AT 261 / Managerial Organization

Trends; use of staff.

AT 271 / Apparel Production Management III

Theories of behavioral psychology through Maziow and Likkert; applications at supervisory levels (section head, foremen, etc.).

AT 272 / Apparel Production Management IV

Techniques of management including "Managemenet by Objectives" (MBO).

AT 273 / Labour Relations

Agreements and negotiations, arbitration etc.

AT 281 / Computer Mathematics III

Electronic data processing systems.

AT 320 / Large Plant Problems

Problem solving specifically related to plants with over 100 operators; case histories, role-playing.

AT 350 / Automated Machinery

Numerical controlled (N/C) sewing machines; special machines; pneumatic aids; computer aids in sewing, pattern-marker and grading, (practice).

AT 370 / Multi-Plant Problems

Problem solving specifically related to companies with more than one plant; feeder plants; vertical and horizontal structure; international operations and their problems; case studies.

AT 371 / Apparel Production Management V

Staffing a plant including interviewing procedures; hiring, firing, promoting employees in fashion environments both union and non-union; handling temperamental artistic creative personnel in workrooms, studios, labs, fashion shows, etc.

AT 372 / Apparel Production Management

Motivation and productivity increases.

AT 391 / Apparel Machinery

Numerically controlled and computer assisted.

BIOLOGY

BIO 100 / Biology

Review of general biological concepts; structures and functions of living things; chemical and biological evolution; cellular organization; life activities; metabolism; nutrition; respiration and energy utilization.

BIO 107 / Biology

An introductory course in animal biology with emphasis on the biological and chemical factors relevant to dental technicians. Comparative biology; Human biology: anatomical systems, nutritional requirements: Cells, functions and structure.

BIO 200 / Biology

An introductory course in food microbiology with emphasis on bacteriological techniques.

BIO 547 / Biology

Introductory Human Anatomy and Physiology; the structure and function of various body systems and laboratory work. The prerequisite is SC 546 or its equivalent.

BIO 548 / Biology

Introductory Cell Biology; microscopy, cell physiology, Mendelian genetics and evolution. Laboratory work. The prerequisite is SC 546 or its equivalent.

BUSINESS AND COMMERCE

BUS 100 / Business Organization

This subject covers primarily areas of business not otherwise covered in the business administration program. Contemporary business issues are analyzed to indicate the relevance of theories and to prepare the student for the business world. The Canadian business scene is highlighted in terms of content, personalities, corporations and institutions. Students learn the generalists' multidisciplinary approach.

BUS 101 / Human Relations

An introduction to the fundamental principles of human relations; an analysis of the general nature of man as viewed from various thinkers, sciences and disciplines such as philosophy, psychology, economics, political science, theology, sociology, music, poetry, art, modern business management theories, etc.; an elementary examination of such topics as: Who am I? (self-awareness); effective communications; effective listening. Students are encouraged to read, research books, periodicals, and to develop a deeper appreciation that all knowledge is potentially valuable as an insight into human relations and human behavior.

BUS 104 / Government Administration

An introduction to the organization and functions of municipal government in Ontario, with special emphasis on the City of Toronto and the Metropolitan Toronto Corporation. The courses will analyse both the political and bureaucratic structures of civic government, with some reference to changing urban politics and their ongoing effect on municipal policy and administration.

BUS 119 / Contemporary Business Issues

Canadian and international issues in the worlds of finance, economics, government, commerce and industry are discussed in seminar-style classes. Literature sources include the Financial Post, Globe and Mail Report on Business, Financial Times, Fortune, The Economist, Time and Business Week.

BUS 215 / Media Application

Students will learn how to use oral and written media in obtaining employment. Students will learn principles and techniques which can be used in on-the-job professional development. Emphasis will be on individual assignments and group activities. The course leader provides personal counselling and coaching.

BUS 307/312 / Legal, Medical and General Terminology

This course is designed to familiarize the student with the terminology likely to be encountered in the courts.

BUS 308 / Court Procedures

The purpose of this course is to familiarize the student with the duties performed by a court reporter and the manner in which a court functions.

BUS 309/310 / Current Events

A good reporter is well-read and well-informed. This course is designed to keep the student abreast of the latest development in politics, science, and the business and medical worlds.

BUS 320 / Organizational Behavior

Students will learn the theories and practice of formal and informal networks of communications, individual and group dynamics, authority and power structures, problem solving, decision making, motivation and leadership, the organizational structure and its internal and external environments.

BUS 321 / Financial Management

The full range of financial decisions which must be taken in modern business is examined. Emphasis is on Canadian business finance practice in the areas of raising of funds for short, medium and long term need and the efficient management of such funds. The major topic areas include investment decision making; long, medium and short term sources of funds; the Canadian monetary system; financial analysis and control; working capital management and expansion.

BUS 322 / International Business

Students examine international trade, Euro dollar and Euro currency markets, foreign exchange markets, multinational and international companies, the World Bank and international balance of payments. Contemporary Canadian-oriented examples are utilized.

Student research projects examine international business roles of federal and provincial government agencies and Canadian multi-national companies.

BUS 323 / M I S (Management Information Systems)

The course is designed for potential managers, to acquaint them with the factors to be considered in deciding whether or not to acquire a computer, to enable them to analyze the documentation of an application system, and to provide them with benefit/cost criteria for computer usage.

BUS 332 / Managerial Accounting and Finance I

Application in apparel industry I and II.

CHEMISTRY

CHEM 100 / Chemistry

Semester I - Physical and chemical changes; kinetic and atomic theory; chemical bonding; reactions; equations; periodic table; solids, liquids, and solutions.

Semester II - Reaction rates; chemical equilibrium; solubility, acids and bases; ph problems, electrochemical and nuclear chemistry; organic chemistry; experiments.

CHEM 102 / General Chemistry

Semester I - Physical and chemical changes; kinetic and atomic theory; chemical bonding, chemical reactions and equations, periodic table, solids, liquids.

Semester II - Reaction rates; chemical equilibrium, solubility; acids and bases; ph problems; oxidation and reduction; electrochemical and nuclear chemistry.

CHEM 105 / Chemistry (Graphic Arts Related)

Fundamentals of chemistry; mixtures and substance. Acids, bases; neutralization and Ph measurements; chemistry of photography and papermaking; inks and pigments; driers and additives; formation and structure of ink films; solvents and binders; plastic materials and processes; colour and colour matching.

CHEM 107 / Chemistry and Science of Dental Materials

Specific chemical and physical principles as they apply to the selection of dental restorative materials. Impression materials such as dental plasters, zinc oxide-eugenol pastes, hydrocolloids and some polymeric substances are considered in depth.

CHEM 110 / Chemistry

Semester I - Introduction to chemistry. Physical and chemical changes Kinetic theory, atomic theory, valences, compounds, formulae, equations, nomenclature, chemical reactions, the structure of the atom; the periodic table, chemical bonds and the structure of molecules; solids, liquids and solutions. Rates of equilibria; acids and bases, neutralization, ph problems, oxidation and reduction, galvanic corrosion, water hardness.

Semester II - Rates of reactions and chemical equilibrium. Fundamental laws of chemistry, solubility equilibria. Acids and bases, neutralization, ph problems, oxidation and reduction. Elementary electrochemical and nuclear chemistry. Introductory organic chemistry. Associated laboratory experiments.

CHEM 111 / Analytical Chemistry

Qualitative analysis. Determination and characterization of ions in solution. Quantitive analysis. Application of laws of stoichiometry to gravimetric and volumetric analysis. Solutions, indicators, concentration, normality, molarity, precipitation. Associated laboratory work. Instrumental analysis. Colourimetric analysis, analysis by refractive index spectrophotometry, turbidimetry, mass spectrometry, polarimetry, electroanalysis.

CHEM 113 / Organic Chemistry

Definitions, bond types, classification, structural formulae and nomenclature. Alkanes, alkenes, acetylene, alkyl halides, alcohols, ethers, aldehydes, ketones, acids, esters, optical activity amines, aromatic hydrocarbons, aromatic nitro compounds, aromatic amines, sulphonic acids, phenols. Associated laboratory work.

CHEM 168 / Chemistry

Atomic theory; symbols; formulae; bonding; molecules and ions; acids and bases; corrosion; electroplating; precious metals, inorganic solvents; organic chemistry; structural formulae; applications of organic chemistry in fields of plastics and organic solvents.

CHEM 178 / Chemistry

Chemistry for Jewellery Continued.

CHEM 200 / Industrial Chemistry and Equipment

Unit operations: distillations, evaporation, solvent extraction, filtration, gas absorbtion, electrolytic separations and electroplating, chemical equipment involved in each operation. Specific industries: oil paints, soaps and detergents, pulp and paper, textiles, steel, plastics.

CHEM 202 / Organic Chemistry

Semester I - Organic chemistry; nomenclature, saturated and unsaturated hydrocarbons; aliphatic and aromatic compounds; alkyl and aryl halides; alcohols, phenols and ethers; organometallic compounds.

Semester II - The carbonyl group; aldehydes and ketones, atomatic sustitution; carboxylic acids; derivatives of acids; aliphatic and aromatic amines and nitro compounds; diazonium compounds and simple dyes; optical isomerism; amino acids.

CHEM 203 / Organic Chemistry Lab

Preparation and properties of some organic raw materials used in manufacturing resins; preparation and testing of polymers used in coatings.

CHEM 207 / Chemistry of Dental Materials

The chemical structure and behavior of water, metals, alloys. Corrosion of metals. Porcelain. Introductory organic chemistry. Structure and chemical properties of dental polymers.

CHEM 210 / Polymer Chemistry

Semester I - Basic concepts of polymer science. Molecular forces and chemical bonding, functionality, molecular weight and its distribution, configurations and conformations, morphology, addition and condensation, polymerization, copolymerization. Methods for determining molecular weights of polymers. Polymerization techniques.

Semester II - Natural organic and inorganic polymers. Degradation of polymers. Properties of polymers. Rheological properties and processing of polymers. Instruments for measuring rheological properties. Newtonian and non-Newtonian fluids. Types of flow. Polymer solutions and dispersions. solid and molten polymers. Application of polymers. Associated laboratory experiments.

CHEM 212 / Industrial Chemistry

Equipment used for grinding (dispersion) of pigments into liquid vehicles; ball and pebble mills, sand grinder, three-roll mill, high speed grinding equipment; piping and pump calculations in the paint plant; mill base letdown; dispersion behaviour and fineness of grind; film applicators.

CHEM 215 / Chemistry

Introduction to the principles of chemistry including discussions of atoms, molecules, ions, atomic and molecular weight, chemical changes, acids and bases and chemical equilibrium. A study of the chemical composition of cements and concrete.

CHEM 300 / Chemistry

This course will cover the basic composition, structure and properties of foods, as well as the chemistry of changes occurring during processing and storage.

CHEM 301 / Biochemistry

An "in viva" and "in vitro" study of the cellular chemistry. The metabolism of the carbohydrates, liquids, and proteins as well as the role of the vitamins, minerals, and water. Energy transformations, both aerobic and anaerobic will be discussed. Qualitative and quantitative biochemical analysis.

CHEM 302 / Chemistry

This course will deal with the principles, methods and techniques of qualitative and quantitative, physical and chemical analysis of foods. Standard official methods will be taught employing modern analytical instrumentation.

CHEM 547 / Introductory College Chemistry

Chemical change, chemical bonding, calculations based on chemical equations, and laboratory work. The prerequisite is SC546

CHILD CARE

CHI 160 / Field Practice

Field practice is an integral part of the program in affording students supervised clinical experience in a variety of settings. Field experience is considered an essential concomitant to the behavioural sciences.

CHI 161 / Human Growth and Development

The normal growth of the child is followed from birth to adolescence including physical emotional and intellectual development. The emphasis is on the first six years of the child's life and his emotional growth during this time.

CHI 162 / Health and First Aid

A lecture-demonstration course focussed on enabling the beginning student to identify and meet the basic physical and safety needs of the children and youth in their care. A standard first aid course is included as well as simple home nursing procedures.

CHI 164 / Caring for the Disturbed Child

The purpose of this course is to arrive at a treatment philosophy. Class discussions are based on students' observations from field placement. Emphasis is placed on areas of basic care and understanding of behaviour of children and staff.

CHI 165 / Creative Activities with Children

This course will explore a variety of media through play and investigate broad areas of activities that require specific skills of the child. It is the essence of play that the experience is more important than the result. It is through the "doing" that structure actually emerges; the form of anything is latent in the process.

CHI 166 / Social Services

Legislation and institutions are studied and related to the child care field. This course includes field trips, guest speakers and class discussions.

CHI 167 / Student Group Seminar

Each week staff advisors meet with their students to discuss common concerns and explore issues raised by either faculty of students.

CHI 169 / Introductory Psychology

Readings and lectures explore some of the finding and developments in the areas of scientific method, perception, learning and motivation, emotion, personality and social psychology.

CHI 170 / Report Writing for Social Sciences

This course is based on the preparation of technical reports; elements of such reports; various types, methods and styles.

CHI 171 / Introductory Sociology

Readings and discussion of the basic concepts in sociology will be used in analyzing various aspects of Canadian Society in intergroup relations, rural and urban communities, social classes and social institutions.

CHI 172 / Group Process I

Purpose of the course: To introduce students to the processes of social interaction and methods of observation through research and laboratory experiments and to encourage a more appreciative awareness of individual styles and strengths in group participation.

CHI 173 / Tutorials

A series of tutorials designed to examine child care work related topics not incorporated in other courses e.g. theories of personality development; innovative therapeutic programmes.

CHI 260 / Field Practice - A continuation of CHI 160

CHI 261 / Psychopathology of Childhood

Discussions include comparison of normal and abnormal development according to the personality theories of Freud, Erikson, descriptions and functioning of defenses and study of specific categories of disturbance (i.e. autism, schizophrenia, etc.).

CHI 262 / Caring for the Disturbed Child/Adolescent

A continuation of Caring I, emphasizing the development of treatment plans for disturbed children on an individual basis.

CHI 265 / Activities with Children (Water Safety)

A combined theory-practice course to ensure safety and some skill in working with children in and around water.

CHI 267 / Student Group Seminar - A continuation of CHI 167

CHI 268 / Treatment Philosophies

An introduction to therapeutic approaches extant in child psychiatry and the mental health field today. Major theories underlying the chosen methods of treatment are discussed.

CHI 269 / Professional Development

A discussion-seminar approach scrutinizing the specific role behaviours expected of the graduate by employers, colleagues, and other disciplines.

CHI 271 / Therapeutic Programming

Discussion of the meaning and purpose of play and fantasy and the use of such understanding for more effective communication with children.

CHI 270 / Group Process II

Purpose of the course: A focused study of the processes, dynamics, structures and politics most relevant to the Child Care treatment centre in its community and professional setting. To include topics of: Supervision, internal structures, Relation to community, Lines of responsibility, etc.

CH 272 / Working with Families

This course will explore the particular concerns and problems which arise in working with parents and families. Consideration is also given to teacher-child-child care worker relationships.

CHI 274 / Independent Study

The student will identify and research an area of interest under the direction of a faculty member.

CIVIL ENGINEERING

CIV 101 / Engineering Drawing and Design

Fundamentals of structural engineering drawing, according to accepted standards and specifications.

CIV 103 / Construction Materials

Engineering testing and investigation of soils; the manufacture and use of cement and asphalt; the design and control of concrete mix; the design of asphalt mix as applied to highway construction.

CIV 104 / Specifications and Estimating

Method of measurement and take off for estimates for building and civil works of a relatively simple nature.

CIV 200 / Structural Drawing and Design

Practical introduction to basic design and drawing, as applied to modern structures in reinforced concrete and structural steel.

CIV 202 / Municipal Services

Collection and distribution of community water supply, factors and manipulations influencing run-off and disposal, pipe sizes, gradients and location of sewer types.

CIV 203 / Highway Technology

Population and traffic analysis; location, design and construction of roads; legal and engineering requirements; materials and maintenance.

CIV 204 / Specifications and Estimating

A continuation of CIV 104 but dealing with more complex structures together with specification reading and preparation of tenders and analysis of prices.

CIV 302T / Municipal Services

Zoning by-laws and regulations, planning boards and committees, studies in planning, preparation of planning reports and plans.

CONSTRUCTION

CO 100 / Building Construction

Site selection and excavation, concrete formwork design, construction equipment, power and hand tools, detailing construction elements, plan interpretation, systems and types of construction, field trips.

CO 101 / Quantity Surveying I

Method of measurement and preparation of estimates for building works for domestic, small office and industrial buildings.

CO 102 / Mechanical Installations I

Storm and sanitary drainage, plumbing layout, venting and fire protection.

CO 103 / Construction Materials

The manufacture and use of cement, steel, brick, clay, wood and other building products; the control and application of quality concrete under laboratory conditions.

CO 104 / Site Engineering

A basic course in the fundamentals of plane surveying, utilizing the various survey instruments and equipment.

CO 105 / Principles of Concrete

A detailed study of cement and its properties, concrete mix design, quality control, testing procedures and compilation of results.

CO 106 / Concrete Construction Methods I

An introduction to concrete components used in all construction; the mixing, transporting, placing, finishing and curing of concrete.

CO 107 / Blue Print Reading and Drafting

Fundamentals of drafting, interpretation of concrete structural drawings.

CO 200 / Building Construction

Reinforced concrete, structural steel, laminated timber and masonry construction and equipment; construction organization; architect, engineer and trades. Drawing and interpretation; field trips.

CO 201 / Quantity Surveying II

Advanced method of measurement and preparation of estimates for building works including preparation of estimate and price build-up.

CO 202 / Mechanical Installations II

A study of those elements of environmental controls, such as heating, air conditioning, electrical and plumbing design and layout within the modern building.

CO 203 / Contracts and Specification

Contracts, contract law, standard forms, methods and applications of various scheduling systems.

CO 204 / Site Engineering

The use and application of survey instruments, setting out buildings, offsets, curves, grading and earthworks.

CO 205 / Principles of Concrete

Continuation of CO 105, further detailed study of cement and its properties.

CO 206 / Concrete Construction Methods II

Regulations and building code, construction and inspection methods, basic study in light-weight concrete, specialized concrete building components.

CO 207 / Concrete Structural Design

Theory and design of reinforced concrete structures and structural elements.

CO 208 / Mechanical and Electrical Installations

A study of those mechanical and electrical devices and installations affecting the total design of a structure, such as elevators, escalators, conveyors; fire protection, plumbing, heating, air conditioning and electrical layouts.

COATING TECHNOLOGY

COAT 100 / Basic Coatings Technology - Theory

Introduction to coatings technology; formation and structure of coatings films; oils, solvents; extender and white pigments; inorganic and organic colored pigments; black and metallic pigments; driers and additives; principles of formulation and coating calculations; varnish technology; emulsion coatings; solvent coatings; industrial coatings; cellulosic and lacquer finishes; dispersion and grinding; testing methods; surface preparation; application techniques. Related laboratory work.

COAT 101 / Coatings Laboratory

Tests for raw materials and basic properties of paints and varnishes.

COAT 200 / Coatings Technology

Plasticizers; emulsion technology; specialty coatings; colour and colour matching; film properties; interfacial phenomena; solvent-binder-pigments interaction; paint analysis; adhesion.

COAT 201 / Coatings Laboratory

Preparation, application, methods, and evaluation of various types of coatings.

COAT 202 / Thermoplastic Resins

Raw materials, manufacturing, chemistry, and properties of thermoplastic polymers and co-polymers used in coatings.

COAT 203 / Thermoset Resins

Raw materials, manufacturing, chemistry, curing and properties of thermoset polymers and co-polymers used in coatings; polyesters, alkyds, epoxies, phenolics, silicones, amino resins, urethanes, furanes.

COMMUNITY WORKER

CW 100 / Field Work (Total for two years - 1045 hours)

Field work is the core of the programme and will be concurrent and integrated with course work in both years. A catalystic approach is implied enlisting citizen participation and encouraging citizen leadership to mobilize identifiable resources around issues of concern to communities.

CW 102 Community Services and Resources (60 hours)

This course is to acquaint students with systems of existing services and to analyze methods of modification for enabling agencies to become more relevant to community needs.

CW 103 Community Health (945 hours)

This course provides for the identification and analysis of health care issues including those related to physical, mental and environmental health. Students will examine the role of individuals, groups, agencies and governmental departments in identifying health issues and methods for improving health planning and services. Study will include emergency health services.

CW 104 / Community Practice and Methods (60 hours)

This seminar will identify and develop strategies to meet needs and elaborate ways to encourage community participation.

The identification of community leaders and their role will raise questions regarding the degree of agency versus community involvement.

The concepts of community education and development will be discussed and related directly to field practice.

CW 105 / Group Process I (60 hours)

Group process I will focus through participation, on the dynamics of small groups.

CW 106 Community Development - First Year (120 hours)

Students will focus on examining frameworks for community development (theory and practice) models, strategies, resources, influencing decision making processes, and systems modification. Examples will be studied.

CW 107 / Human Growth and Development (60 hours)

The critical stages of personal growth will be related to the socio-economic, political and ecological variables which influence the life-long development, potential and actions of the individual.

CW 108 / Comparative Sociology (60 hours)

Significant conceptual models in sociology and their application to society will be studied.

CW 202 / Business Practice and Administration (60 hours)

This course provides basic techniques for managing and supervising centres or organizations. Elementary bookkeeping, personnel procedures, the conduct of business meetings and the organization of staff will provide core subject areas.

CW 203 / Canadian Society and Social Change (60 hours)

This course will explore changing trends in Canadian society as shown through historical precedence and socio-economic development. Focus will be on analysis of media, governmental reports, novels, essays, etc., that demonstrate influences on Canadian society, and which are of current interest to students and advocates of community improvement.

CW 204 / Communication and Understanding of Media (30 hours)

Productive community relations and small group encounters depend upon an ability to communicate effectively to a broad spectrum of people. Knowledge of an experience in the techniques of how opinions are formed and developed are studied through exposure to, and the construction of, communications tools and methods for their effective use.

CW 205 / Group Process II (60 hours)

Group process II will encompass goal setting and organizational development. The overall concept of this course is to demonstrate group development from an analysis and demonstration of the dynamics and potential of the small group, through an exploration of techniques (role-playing, creative problem-solving)and theories of group, to a study of formalized groups (families, organizations, etc.) and how they set goals and carry out activities.

CW 206 / Independent Study Seminar (30 hours)

Students will pursue a topic of particular interest or relevance with the assistance of a staff member.

CW 207 / Political Science (30 hours)

This course is designed to give the student an understanding of municipal, provincial and federal politics and explores their interrelationships. Methods of social action that have an impact on the political process will be studied.

CW 208 / Surveying and Interviewing (60 hours)

Theory and practice of interviewing and counselling; functions of the interview; fundamentals of successful interviewing; communication facilitating methods and barriers to effective communication; assessment and recording; survey methodology and research technique.

CW 101 / Field Work Seminar (60 hours)

Students will meet in small groups with their staff adviser to share common difficulties arising in field work. The participation of all students involved in field work will be required.

CW 201 / Field Work Seminar

A continuation of CW 101.

CW 200 / Field Work

A continuation of CW 100

DAY CARE WORKER

DCW 100 / Infant and Child Development

A look at development from birth to 2 years from the perspective of (1) heredity and environment; (2) growth and maturation; (3) learning, motivation and emotion; (4) language, and (5) intelligence. A discussion of relevant infant care routines and programs and the adult's role in those programs.

DCW 101 / The Infant's Physical Health and Well Being

To increase the awareness of healthful concepts specifically to working with infants and children in a day care centre. A standard first aid course is given by the Canadian Red Cross.

DCW 102 / Introductory Psychology

A brief survey course of various branches of psychology to provide the student with a basic understanding of human behaviour and some skills in applying this knowledge to day care situations.

DCW 103 / Mental Health

A seminar on the infant's personality development and the impact of the infant-adult relationship on the growth and development of the child.

DCW 104 / Principles of Day Care

The examination, through study and discussion and in conjunction with observations and the supervised field practice of current ideas and existing day care programs in meeting the developmental needs of infants and children in a variety of day care settings.

DCW 105 / Creative Expression in Childhood

This course will explore the creative process: what activates it; how it functions; how its universal aspects have implications in the modes of learning and self-expression of the growing child. Accordingly, the course will investigate play and a variety of media, through seminars and workshops.

DCW 106 / Introductory Sociology

A brief survey course to provide the students with a basic underatanding of social structure and some skills in applying this knowledge to day care situations.

DCW 107 / Professional Development

This course will include concepts of professions behaviour and responsibilities to children, parents, colleagues and members of allied professions as well as the importance of responsibility for self growth within the day care field.

DCW 108 / Legislation and Community Services

A study of legislation pertinent to day care in Ontario, specifically the Day Nurseries Act as well as a brief survey of day care legislation across Canada. A survey of agencies concerned with the health and welfare of the child and the family.

DCW 109 / Nutrition and Food Management

Basic concepts in menu planning, food purchasing, storing, and preparation are studied with relation to nutrition. The importance of managing a day care kitchen is discussed. Current concepts of feeding practices, particularly with infants, is emphasized.

DCW 110 / Special Studies

A reading seminar in English literature supported by background philosophy on man's research for identity in the 20th century.

DCW 111 / Tutorials

The class is made up of small groups headed by a staff advisor, who is also the co-ordinator between the college and the field placement, to discuss the courses in relationship to the field placement.

DCW 112 / Supervised Field Practice

Individual student supervision and evaluation is given in selected day care settings to provide an opportunity for the student to observe and to practice with infants and children in day care as well as to provide an opportunity for the student to gain necessary information for different course assignments.

DCW 200 / Human Growth and Development

A study of the process in which an infant grows and develops into a mature human being - the nature of the relationship between the child and society - the stages of development to maturity from a variety of theoretical and practical viewpoints.

DCW 201 / Children With Special Needs

An examination of etiology and treatment concepts related to children with special needs: physical, psychological and sociological.

DCW 202 / Cognitive Development

Aim: To develop a theoretical framework for examining how learning occurs. The student will be required to research and generate a program within an area of individual interest such as science drama, etc.

DCW 204 / Varieties of Day Care

A survey of various day care programs reflecting different philosophies in day care accompanied by field trips where possible.

DCW 205 / Planning and Management of Day Care Facilities

A study of the resources and skills needed in setting up and managing a day care centre, starting with legal requirements, initial stages of planning and developing programs and progressing to final stages of financing, accounting and managing a day care operation.

DCW 206 / Family Dynamics

A study of the various interactions in families and the facts and issues which influence them and a practical application of this knowledge to actual day care family situations.

DCW 207 / Parent Interviewing, Counselling and Education

A survey of parent education theories with opportunities to practice techniques of interviewing, counselling, group education and community organization.

DCW 208 / Group Process

A study of group dynamics with opportunities to develop skills in leading groups or affecting group processes.

DCW 210 / Tutorials

The class is made up of small groups headed by a staff advisor, who is also the co-ordinator between the college and the field placement, to discuss the courses in relationship to the field placement.

DCW 211 / Supervised Field Practice

Individual student supervision and evaluation is given in selected day care settings to provide an opportunity for the student to observe and to practice with infants and children in day care, as well as to provide an opportunity for the student to gain necessary information for different course assignments.

DENTAL PROGRAMS

DENT 100 / Dental Laboratory & Lectures I

The practical laboratory procedures of the dental technician program enable the student to develop all the techniques involved in present day dental technology; these practical exercises are extended over the entire three-year program and account for 80% of the complete course; combined with the practical procedures are the theoretical principles and fundamentals involved.

DENT 101/201 / Dental Materials

This course makes a detailed study of the composition and physical properties of impression materials; rigid, plastic and elastic; the manipulation of impression materials; properties and composition of gypsum products, namely acrylic resins, dental waxes; composition of dental porcelain, building and firing.

DENT 102/202 / Dental Anatomy

This course consists of a series of lectures dealing with the basic and fundamental anatomy of teeth and related structures. Since a satisfactory end result is imperative in all types of dental restoration, the technician must have an intimate knowledge of outline form and occlusion, and be able to reproduce this in an art form unlike any other.

DENT 104 / Basic Health Science

This subject taught in the first semester concentrates on the cell and primary tissues, integumentary system, musculoskeletal system, nervous system, circulatory system, respiratory system, digestive system genito-urinary system, reproductive system, endocrine system, and special senses. Emphasis is placed on microbiology.

DENT 105 / Dental Laboratory

The practical laboratory procedures of this course provide the student with a sound basis to enable him to develop all the techniques involved in present day dental technology and include: identification of equipment, application of safety regulations, tooth sketching, tooth carving, models, base plates, occlusal rims, custom impression trays and pinning and puring stone dies.

DENT 106 / Dental Materials

This course makes a detailed study of the composition and physical properties of impression materials: rigid, plastic, and elastic. The manipulation of impression materials. Properties and composition of gypsum products, acrylic resins, dental waxes. Composition of dental porcelain, building and firing.

DENT 107 / Dental Assisting

Emphasis is placed on the four-handed concept and team approach to dental assisting. The students are trained in dental office procedures, supplies, film processing, patient education, first aid, identification and care of instruments and equipment, chairside procedures and instruments exchange.

DENT 108 / Professional Development

Students are trained in professional decorum, good grooming and conduct befitting young professional women. Upon graduation, it is expected that students will conduct themselves professionally and function efficiently as competent dental auxiliaries.

DENT 109 / Dental Radiology

The graduate will know the properties and equipment, protective regulation and measures, as applicable to dentistry; he will be able to produce and process diagnostic dental x-rays, applying the bisecting angle or the right angle paralleling technique, as directed by a dentist.

DENT 110 / Oral Hygiene

Emphasis is placed on prevention and the students are instructed in patient education, oral hygiene procedures, brushing techniques, dental flossing, stimulation and home care.

DENT 111 / Clinical Practice

Under the supervision of highly qualified participating dentists, the students will spend one week at the Faculty of Dentistry, University of Toronto. In the clinical environment at the Faculty of Dentistry, the students will assist undergraduate dental students with routine dental procedures. Furthermore, the students will be assigned to private dental practices for one week. Under the supervision of qualified dental practitioners, the students will observe and participate in the clinical procedures, reception of patients, administration, correspondence, accounting and clerical duties performed in a dental office.

DENT 200 / Dental Laboratory & Lectures II

A continuation of Dental Laboratory & Lectures I.

DENT 300 / Dental Laboratory & Lectures III

A continuation of Dental Laboratory & Lectures II

DESIGN (JEWELLERY)

DES 169 / Elementary Arts

Theories of line; layout; design, lettering (styles); transferring designs to metal, etc.

DES 269 / Principles of Jewellery Design

Engraving, intermediate level to DES 169.

DES 369 / Advanced Jewellery

Engraving designs.

DICTAPHONE

DIC 105 / Dictaphone

This is a short course to familiarize the secretarial student with the use of transcribing equipment, whether the dictaphone be on belts, tapes or discs.

DIC 200/201 / Medical Dictaphone

Initially transcription will be from professionally dictated tapes, belts and discs, including material such as operative notes, final summaries, case histories, etc., covering areas such as neurology, internal medicine, orthopedics, etc. In the last semester, emphasis is on intensive production of actual hospital dictation in addition to on-the-job training in a downtown hospital.

DRAFTING

DR 102 / Architectural Drafting I

Preparation of working drawings of plans, sections, elevations and details of frame and masonry construction; perspective drawings; rendering and model making.

DRESSMAKING

DRES 141/541 / Elementary Dressmaking Using Commercial Patterns

Projects: shifts of jumpers, skirts (wool), and/or blouses (cotton). Measurements, relationship of pattern, style and fabric; laying out patterns; sewing techniques (hand and domestic machine).

DRES 142/542 / Fabrics I

Study of textiles for beginners; structure and fibres (man made and natural).

DRES 144/544 /

Fitting, alterations and care of garments; consumer protections; meaning of labels and symbols and proper use according to law.

DRES 145/545 /

The proper selection of style and pattern to suit wearer and material; fashions and their changes; knits and stretch fabric techniques; intimate wear and lingerie; special finishes.

DRES 146/546 / Tailoring I

Ladies' tailoring sewing, cutting techniques; finishing coats and suits using commercial techniques.

DRES 151/551 / Advanced Sewing Techniques

Construction layout, cutting, finishes. Making samples. Projects: detailed dresses, skirts and weskits (lined) and gowns. Emphasis on fitting, hand finishes and detail. Application of trims, bound buttonholes, pockets, zippers, etc.

DRES 152/552 / Fabrics II (Intermediate Level)

Construction of cloth; various weaves and finishes (synthetic and natural fibres).

DRES 154/554 / Fitting, Alterations And Care of Garment

Intermediate level; workroom techniques.

DRES 155/555 / Patterns And Fashions

How to style commercial patterns by changing integral parts or reshaping. Cutting techniques for knits and stretch materials.

DRES 156/556 / Tailoring II (Intermediate Level) following DRES 146

Projects: wool coat or cape; suit jacket and skirt, etc.

DRES 241 / Dress Construction

Most efficient ways of cutting and seaming garments and assembling parts to form clothing. Efficient use of fabric to minimize waste.

DRES 242 / Fabrics III (Advanced Level)

Project: fabric book (samples and examples of best use) - co-ordinate colors and textures; knits, trims, braids, etc.

DRES 244 / Alterations and Fitting (Advanced)

Pattern changes before construction to eliminate fitting problems.

DRES 246 / Tailoring III (Advanced Level)

Special finishes: buttons, belts, etc. Working with fur fabrics and fur trims.

DRES 247 / Apparel Construction

Sample-making for the professional apparel plant.

DRES 248 / Varieties of "Findings"

Trims, zippers, supplies, etc., and the optimum methods of efficient purchasing and stocking of them.

DRES 249 / Dress Store Workroom

Case studies of workroom problems.

DRES 251 / Couture Construction Technology (Advanced)

Engineering shortcuts to accomplish more work in less time.

DRES 252 / Fabrics

Knits, trims, and braids.

DRES 254 / Advanced Alterations and Fittings

Pattern changes before construction to eliminate fitting problems.

DRES 256 / Tailoring IV

Commercial approach to finishing and substitutes for hand operations.

DRES 258 / Continuation of DRES 248

Buying materials and supplies; problem solving.

DRES 341 / Apparel Projection

Techniques useful for predicting style changes; the relationships between fashion and human psychology; economic and political factors affecting dress.

ECONOMICS

EC 100 / Economics

Forms of economic and business organization, supply and demand, money and banking, personal finance, international trade, business cycle, investment, uses and sources of credit, taxation; money, credit and banking.

Cost analysis, human relations, sales, government law regulations, social services, classified financial statements, basic bookkeeping practices, proven promotion methods, advertising.

EC 113 / Business Organization

Maintenance of records; charts; files; cost accounting, receivable and payable. Inventory, stock, supplies, materials, receipts. Budget, expansion and growth.

EC 132 / Small Business Management

Business Mathematics; basic bookkeeping: journals, ledgers, financial statements, entries, special journals. Business organization; business law; sales and advertising.

EC 175 / The Economics of the Canadian Apparel Industry

Financial and banking - Sec. 88 of the Bank Act - Capital, etc.

EC 176 / Government Programs

Municipal, county, provincial and federal aids and programs for industry in general and the apparel industry in particular; foreign markets.

EC 210 / Economics I

Basic economics and industrial organizations: forms of economic organization and business financing.

EC 211 / Economics II

Supply and demand business cycles and compensatory countercyclical fiscal policy. Labour economics. Insurance. Civics organization of federal, provincial and municipal government.

EC 212 / Business Organization

Administrative and office services. Auto data processing. Short, Short, medium and long term financing and functions and methods of marketing. Sales and sales promotion activities.

EC 214 / Business Management and Labour Relations

A study of selected principles of and problems in industrial relations with emphasis on supervision. The essentials of successful management, organization, inventory control, regulations and other phases of small business operation.

EDUCATION

ED 100 / Fundamentals of Supervision and Instruction Techniques

Theory and case problems of supervision. An analysis of teaching techniques. Practical teaching with emphasis on personality presentation.

ELECTRONIC DATA PROCESSING

EDP 100 / Introduction to Data Processing

This course provides an overview of business data processing which will prepare the participant for further study in the areas of programming and systems analysis. Topics include hardware and software features, programming languages, flowcharts, and programming experience.

EDP 101 / Cobol I

Language mechanics of COBOL are introduced and students gain practical experience by writing programs to solve business type problems. Emphasis is placed on documentation of programs.

EDP 102 / IBM/370 Assembler I

This course introduces IBM/370 architecture and discusses in detail the components of the IBM/370 series of computers. Topics include hardware and software features while emphasizing programming in Assembler language.

EDP 200 / Cobol II

Applications such as accounts receivable and payroll are the subject of programming assignments. Techniques include sorting, summarizing and master file update.
Prerequisite: A "C" standing in COBOL I

EDP 205 / IBM/370 Assembler II

This advanced course in programming the IBM/370 series of computers focuses on many of the powerful features of Assembler language. Case studies and comprehensive problems encourage programming proficiency while extending the programmer's knowledge of applications.
Prerequisite: A "C" standing in Assembler I

EDP 202 / Systems Analysis I

This introductory course in Systems Analysis examines the role of the systems analyst within an organization. Case studies and class problems encourage participants to develop skills and to utilize techniques associated with the systems function.

EDP 206 / Systems Analysis II

This advanced course in Systems Analysis involves active participation in problem investigation and encourages analytical examination of facts prior to the presentation of a proposed solution.
Prerequisite: A "C" standing in Systems Analysis I

EDP 204 / Advanced Programming

Applications requiring several interactive programs and involving the use of direct access storage are designed by the class. Individually, students write the necessary programs to install and maintain the applications. COBOL is the primary language, however, techniques for insertion of segments in other languages are introduced.

EDP 208 / Advanced EDP Topics

This course examines selected topics which are of current interest in data processing.

ELECTRICAL TECHNOLOGY

EL 106 / Electrical Fundamentals

Ohm's law, D.C. circuits, power dissopation, magnetism and electromagnetism, inductance, capacitance, alternating currents, inductive and capacitive reactance, impedance, A.C. circuits, power dissipation and A.C. circuits.

EL 111 / Electrical Fundamentals

Ohm's law; series and parallel DC circuits; series-parallel or combination DC circuits; power in DC circuits; resistivity; wire calculations; resistance change with temperature; magnetism and electromagnetism; magnetic circuits; inductance; transients in inductive circuits; capacitance; transients in capacitive circuits; design of DC ammeters, voltmeters, and ohmmeters; DC networks.

EL 112 / Electrical Machine Fundamentals

Construction and operation of "ideal" single-phase transformers; three-phase banks; construction and operation of three-phase transformers; construction and operation of single-phase motors, three-phase induction motors and three-phase synchronous motors; AC motor application.

EL 113 Electronic Fundamentals

Construction and operation of vacuum-tube diodes, triodes, tetrodes, and pentodes; vacuum-tube amplifiers and switches; construction and operation of semiconductor diodes and transistors; transistor amplifiers and switches.

EL 114 / Electrical Drafting I

Lettering; use of instruments; linework; metric and inch scales; orthographic projection; isometric projection; sketching; electrical and electronic schematic symbols, simple motor control schematics; two-and three-wire control.

EL 115 / Applied Circuit Analysis I

A tutorial in solving simple passive D.C. and A.C. circuits using the slide rule, and using basic algebraic and trigonometric manipulations in their solution. An introduction to time constants, and to circuits requiring solutions by quadratic equations.

EL 121 and 121T / Direct-current Machines

Construction and operation of separately-excited, shunt, series, and compound generators; armature windings; equalizer winding; commutation; three-wire generators; Dynamotors; series boosters; Amplidynes; Rototrols; Regulex Generators; Ward-Leonard system; construction and operation of shunt, series, and compound motors; braking; maintenance of DC machines.

EL 122 and 122T / Electrical Circuits

Construction and operation of a basic AC generator; sinusoidal voltage and current equations; instantaneous, average, and effective values; inductive and capacitive reactance; impedance; series circuits; parallel circuits; power, reactive power, and apparent power in single-phase circuits; phasor diagrams; complex circuits; networks; resonance; voltage, current, and power in balanced three-phase systems; AC instruments.

EL 123 and 123T / Electrical Drafting II

Three-phase motor control circuits; induction motor control and schematic, part-winding motor control and schematic; synchronous motor control schematic; reduced voltage starting circuits; forward-reverse control; point-to-point and highway type wiring diagrams; conversion from wiring diagram to schematic diagram; DC motor control schematics.

EL 124 and 124T / Applied Circuit Analysis II

A tutorial in D.C. and A.C. passive network analysis requiring solutions by complex algebra and determinants.

EL 125 / Electrical Environmental Systems

Basic concepts of electrical heating and air conditioning as applied to the environment and calculations for electrical power loads. Principles of illumination and calculations related to electrical power loads; acoustics and methods of controlling sound in the environment and calculations of electric power loads.

EL126 and 126T / Electrical Control Systems

Construction and operation of DC relays and contactors; construction and operation of manual DC starters; DC magnetic starters; operation of simple DC motor-control circuits; construction and operation of AC relays and contactors; operation of AC magnetic starters; operation of simple AC motor-control circuits; introduction to static-control equipment.

EL 130 / Electrical Fundamentals

Electrical and electron theory, laws and applications, symbols and schematics, circuits, wiring practices, motors, transformers, test equipment and analysis, vacuum tubes and transistors.

EL 200 / Electrical Fundamentals

Ohm's Law, D.C. circuits, power dissipation, magnetism, electromagnetism, A.C. circuits, A.C. power dissipation, inductance, capacitance, impedance, D.C. and A.C. machines, transformers, relays and switching. Welding machine trouble-shooting and repair.

EL 232T / Alternating Current Machines

Transformer principles; construction of single-phase and three-phase transformers; standard transformer tests; impedance and voltage regulations; parallel operation; transformer connections; construction of alternators; stator windings; rotor windings; impedance; voltage regulations; alternator test and regulation calculations; armature reaction; paralleling; operation of synchronous motors; phasor diagrams; power-factor control; supersynchronous motors; synchronous induction motor; construction of three-phase induction motors; operation of induction motors; starting torque and current; breakdown torque; construction and operation of single-phase induction motors; split-phase starting; shadedpole motors; repulsion motor; single-phase synchronous motors; maintenance of AC apparatus.

EL 233T / Blue Print Reading

Architectural symbols and conventions; mechanical symbols; electrical wiring symbols; interpretation of electrical drawings showing commercial and industrial installations; reading of ladder diagrams; conversion from wiring to elementary diagram.

EL234 and 234T / Electrical Distribution Systems

Review of AC fundamentals; review of balanced three-phase systems; unbalanced three-phase four-wire Wye-connected loads; unbalanced Delta-connected loads; unbalanced three-wire Wye-connected loads; combination unbalanced loads; phasor diagrams; two-watt meter method of measuring power; meter switching circuits; electrical systems; overhead and underground distribution systems; types of distribution systems; system regulation; voltage regulators; lightning arresters; circuit breakers; street lighting system.

EL 235 and 235T / Industrial Electronic Fundamentals

Review of the operation of vacuum tubes and semiconductor diodes and transistors; Zener, Avalanche, and Esaki diodes; field-effect transistors and Unijunction transistors; four-layer diodes; photoelectric devices; saturable reactors and magnetic amplifiers; gas diodes, ignitrons, and thryatrons; logic devices.

EL 236 and 236T / Protection of Electrical Equipment

Malfunctions of single-phase transformers; fuses; circuit breakers; types of protective relays; relay protection of single-phase transformers; malfunctions of three-phase transformers; relay protection of three-phase transformers; malfunctions of induction motors; H.E.P.C. code on motors; protection of induction motors; co-ordination of protection; relaying zones.

EL 237 and 237T / Electrical Drafting III

Development of control schematics for complex motor control systems involving interlocking, sequence control, forward-reverse control and multispeed starting; including wiring diagrams and electrical layout drawings; motor control center design.

EL 241 / Industrial Electronic Control Systems

Timing circuits; electronic timers; photoelectric relays; light-sensing relays; temperature-sensing relays and temperature recorders; voltage regulators; voltage-sensing relays; motor-speed controllers; position controllers; power rectifiers; resistance welders; electronic heaters; electronic instruments; logic devices; synchros, static stability of servomechanisms.

EL 242 / Electrical Apparatus

Transformer principles; construction of single-phase and three-phase transformers; standard transformer tests; impedance and voltage regulation; parallel operation; transformer connections; construction of alternators; stator windings; rotor windings; impedance; voltage regulation; alternator test and regulation calculations; armature reaction; paralleling; operation of synchronous motors; phasor diagrams; power-factor control; supersynchronous motors; synchronous induction motor; construction of three-phase induction motors; operation of induction motors; starting torque and current; breakdown torque; construction and operation of single-phase induction motors; split-phase starting; shaded-pole motors; repulsion motor; single-phase synchronous motors; maintenance of AC apparatus.

EL 243 and 243T / Electrical Drafting IV

Transformer substation design; grounding arrangement, electrical arrangement, single-and three-line diagram and preparation of a complete bill of material for the substation; relay and control panel layouts and wiring diagrams.

EL 244 / Wiring Methods and Electrical Code

Wiring materials including conduit non-metallic sheet cable, armoured cable, mineral insulated cables, aluminum sheet cables, bussways, wireways, services, residential, commercial, and industrial; devices; fixtures; motors; electrical safety code applications.

EL 245 and 245T / Introduction to Computer Programming

Fundamental concepts of programming; "BASIC" as a programming language; arithmetic functions, loops, conditional and unconditional branching; use of the TIME-SHARING System with remote terminals; preparation of flowcharts and simple problem solving programs.

EL 247 / Electrical Design Applications

Layout of switchboards; distribution systems, low voltage signal systems and electrical heating systems. Calculations for lighting layouts and heat loss factors. Meters, mechanical design of related electrical equipment and transmission towers. Electronic chassis layouts and printed circuits. Complete design drawings for electrical installations for residential, commercial and industrial projects.

EL 248 / Architectural and Mechanical Blueprint Reading and Drafting

Architectural, structural and mechanical symbols and conventions. Preparation of working drawings for architectural plans, sections, elevations. Preparation of mechanical working drawings for heating, ventilating, air-conditioning, plumbing and piping systems.

EL 249 / Electrical Specification Writing

Basic concepts of specification writing. Legal use and interpretation of English. Reading working drawings. Legal position of contractor, engineer, architect and client. The legal importance of electric drawings and relationship to the specification. The importance of electrical codes and approvals. Details of the sections of an electrical specification. Practice in writing a short electrical specification using a completed set of electrical, architectural and mechanical drawings. Specification office procedure.

EL 305 / Machine Circuits and Apparatus

Basic fundamentals of D.C. and A.C. circuits, electromechanical control of A.C. and D.C. motors, trouble shooting electromechanical systems with instruments. Thorough understanding of pertinent wiring and schematic diagrams.

EL 353 and 353T / Electrical Drafting IV

Transformer substation design: grounding arrangements, electrical arrangements, single-and three-line diagram and preparation of a complete bill of material for substation; relay and control panel, layouts, and wiring diagrams.

EL 351 / Industrial Electronic Control Systems

Timing circuits; electronic timers; photoelectric relays; light-sensing relays; temperature-sensing relays and temperature recorders; voltage regulators; voltage-sensing relays; motor-speed controllers; position controllers; power rectifiers; resistance welders; electronic heaters; electronic instruments; logic devices; synchros, static stability of servomechanisms.

EL 352 / Electrical Environmental Systems

Basic concepts of electrical heating and air conditioning as applied to the environment and calculations for ejectrical power loads. Principles of illumination and calculations related to electrical power loads; acoustics and methods of controlling sound in the environment and calculations of electric power loads.

EL 362 / Electronic Instruments

Instrument errors; statistical analysis of results; standards of measurement; DC indicating instruments; loading effects; potentiometers; DC bridges; AC bridges; oscilloscopes; applications of oscilloscopes; electronic analog instruments; digital instruments; signal generators; waveform analyzers; time and frequency measurement; transducers.

EL 363 / Servo Controls

Feedback principles, notation and definitions, transform theory; feedback diagrams, nyquist, stability, bode, etc.; servos, syncros, servo amp., Ward Leonard system; application, transducers, photoelectric controls, induction and dielectric heating, motor controls, chemical controls.

EL 364 / Machine Design

General design procedure; design of single-phase and three-phase transformers; design of polyphase induction motors; design of synchronous machines; design of single-phase motors; design of DC machines.

EL 365 / Electrical Estimating

Analysis of electrical drawings, take off procedures, pricing, labour costs, adjustments for working conditions and non-productive costs; incidental and direct job costs including electrical heating. Analysis of specifications.

ELECTRONIC TECHNOLOGY

ELTC 100 / Electronic Fundamentals I

An introductory course: Active devices; vacuum tubes; Semiconductors; Tube and Semiconductor comparison.

ELTC 101 / Electrical Fundamentals Advanced

Combination D.C. resistive circuits; power and energy; Application of theorems; Magnetism; Inductance in D.C. applications; Capacitance in D.C. applications; Alternating Current; Inductance in A.C. applications, Capacitance in A.C. applications; Principles of L-C-R circuits; Power in A.C. circuits, transformers,; Multiphase A.C. systems.

ELTC 102 / Electronic Fundamentals Advanced

Networks; L-C-R circuits, impedance, Applications of theorems; Resonant circuits; Filters; Power supplies.

ELTC 102T / Electronic Fundamentals Advanced

Same as ELTC 102 but taught using more mathematical models.

ELTC 103 / Amplifiers and Devices

Vacuum tubes; Semiconductors; C.E. analysis, C.B. analysis, C.C. analysis cascade amplifiers, frequency response, distortion, power amplifiers; Semiconductor devices, F.E.T., Unijunction transistor, S.C.R., traic, intergrated circuits, operational amplifiers, Oscillators; Armstrong, Hartley, Colpits.

ELTC 103T / Amplifiers and Devices

Same as ELTC 103 but taught using more mathematical models

ELTC 104 / Advanced Transistor

h parameters in two port networks; h parameters in active two port networks; C.E. circuits, C.C. circuits, biasing and stability; configuration comparisons; transistor ratings; quantitative analysis of cascade amplifier; large signal applications, power amplifiers, class A, class B, class AB, integrated circuits; semiconductor devices, analysis of F.E.T., unijunction.

ELTC 105 / T.V. Principles

Basic transmitting principles; receiver (black and white), typical waveform and voltages, fault finding procedures; tuners, I.F.'s, video amplifiers, sync separators; vertical and horizontal oscillators, horizontal output stage, picture tubes, sound circuitry; receivers (color), color principles, basic circuits.

ELTC 106 / Electrical Fundamentals I

An introductory course: Atom theory, current flow; Potential difference; Resistance; Ohm's law; Resistive circuits; Batteries; Power.

ELTC 107 / Electrical Fundamentals II

An introductory course: Magnetism, permanent magnet, induced voltage, electro-magnetism; A.C. generator; A.C. motors; Transformers.

ELTC 108 / AM/FM Receivers

Principles of carrier transmissions; Amplitude modulation; properties, receivers; Frequency modulation; properties, receivers; FM stereo multiplex.

ELTC 109 / Electronic Drafting

Production of printed circuit layouts, artwork and printed circuit boards for electronic projects, theory and design of integrated circuits and production of integrated circuit layouts. Development of electro-mechanical drawings for mechanical components of electronic equipment. Free hand sketching. Architectural, mechanical and electrical blueprint readings.

ELTC 111A / Applied Circuit Analysis I

A tutorial in solving simple passive D.C. and A.C. circuits using the slide rule, and using basic algebraic and trigonometric manipulations in their solution. An introduction to time constants, and to circuits requiring solutions by quadratic equations.

ELTC 111B / Applied Circuit Analysis II

A tutorial in D.C. and A.C. passive network analysis requiring solutions by complex algebra and determinants.

ELTC 111L / Applied Circuit Analysis Laboratory

A computer oriented course to reinforce ELTC 111A and ELTC 111B Applied Circuit Analysis Parts I and II.

ELTC 111T / Applied Circuit Analysis

Same as ELTC 111 but taught using technology mathematics.

ELTC 112A / Laboratory

Laboratory exercise to reinforce basic principles plus building and testing a motivation project.

ELTC 112B / Laboratory

Laboratory exercises to reinforce theory lessons plus building and testing student chosen project based on published information. Project built on printed circuit board.

ELTC 120 / Electronic Drafting Fundamentals

Use of instruments, lettering and line work, electronic symbols and use in schematic diagrams, development and production of point-to-point, highway, airline and wiring diagrams. Description of cable forms, wiring harnesses and locking devices, theory and layout of printed circuits and production of printed circuit boards from layouts and artwork, linear and polar graphs, vertical and horizontal bar charts. Use of logarithmic paper.

ELTC 121 / Electronic Drafting

Production of printed circuit layouts, artwork and printed circuit boards for electronic projects, theory and design of integrated circuits and production of integrated circuit layouts. Development of electro-mechanical drawings for mechanical components of electronic equipment. Free hand sketching.

ELTC 200 / AM/FM Technology

Types of modulation, amplitude modulation, properties, mathmatical development; frequency modulation, properties, mathematical development, Bessel curves and tables; Receiver circuits, mixers, oscillators, detectors, tuned amplifiers, single, double and cascade amplifiers.

ELTC 201 / Wave Shaping and Control Devices

Non-sinusoidal waveforms, harmonic analysis, transient and steady state conditions, wave shaping circuits; Switching characteristics; Multi-vibrators; Control devices, unijunction transistor, S.C.R. traic, S.C.S.

ELTC 203 / Computer Aided Instruction - Same as ELTC 203T

ELTC 203T / Computer Aided Instruction

Basic fortran programming; Electronic circuit analysis program; PDP8 language.

ELTC 204 / Solid State Design

Small signal design and analysis of differential amplifiers; Feedback amplifiers gain, bandwidth, and distortion considerations; Nyquist and bode plot analysis of frequency response; Operational amplifier parameters; Analog and digital applications of operational amplifiers.

ELTC 205 / Communication Technology I

Communication systems; Noise, definitions, calculations, noise expressions; Oscillators, crystals, crystal oscillators; Amplitude Modulation; Modulating with complex waveforms, A.M. transmitter, class B & C signal analysis (Fourier): Types of modulation grid, plate, base, collector, measurements, antenna matching; R. F. power amplifiers class A, B_1, B_2, C, C_2; A.M. communication receivers, requirements, R. F. amplifier, converter, I. F. amplifier - variable bandpass, detectors; Single side band, signal analysis, transmitter, receiver; Frequency modulation; signal analysis of direct, indirect F.M., phase modulation, modulating methods, transmitters, noise.

ELTC 207 / Advanced Semi-Conductor Devices

h parameters in two port networks; h parameters in acrive two port networks, C.E. circuits, C.B. circuits, C.C. circuits, biasing and stability; configuration comparisons; transistor ratings; quantitative analysis of cascade amplifier; large signal applications, power amplifiers, class A, class B, class AB; integrated circuits; semiconductor devices, analysis of F.E.T., unijunction, S.C.R., traic, S.C.S.

ELTC 208 / Pulse Circuits

ion-sinusodial waveforms, harmonic analysis, time constants, transient and steady state conditions, wave shaping circuits, applications; switching characteristics, wave shape definitions, switching with active devices; waveform generating circuits and applications, multivibrators, astable, monostable, bistable (discrete and op. amp. circuits); triggering and steering; Schmitt Trigger; other generators, sawtooth, trapezodial, blocking oscillators.

ELTC 209A and 209B / Laboratory

In each course and each area of specialization, laboratory periods will be given. The laboratory exercises have been developed so that they will reinforce the materials given in theory. Also, the laboratory exercises emphasize measuring techniques and principles. Because of the ultimate goal in Engineering Technician training, "hands on" laboratory training is considered essential and, therefore, this phase of the course is considered to be a major area of study.

ELTC 210 / Digital Principles

Digital arithmetic and coding; basic logic circuits and Nor, Or, Nand, exclusive or, flip-flops, R-S, clocked R-S, D-P type, J-K; Boolean algebra, truth tables, Venn diagrams, Karnaugh maps, deviation of logic equations, practical applications; Register circuits, storage, shift, information transfer, counters; Adders and Subtractors; Basic computer system.

ELTC 211 / Audio Principles

Acoustic fundamentals; Elements of audio systems; basic layouts, audio transmission, attenuators and mixers; Ultrasonic and audio transducers, microphone, loudspeakers, magnetic heads, optical, sound, measurement; Audio transport mechanisms; Principles of the Dolby systems; Dubbing and editing principles.

ELTC 212 / Video Principles

Light characteristics; Lens characteristics; Lens types; Color principles and vision; Light spectra energy conversion; Heat sensitive devices and controls.

ELTC 213 / Communication Principles

Amplifiers, miller effect, negative feedback, linear amplifiers, varactor multipliers; R.C. phase shift oscillator, crystal oscillator, crystal ovens and stability calculations; amplitude modulations; AM transmitters; AM receivers; single sideband; frequency modulation; direct FM transmitters; phase modulation; FM receivers.

ELTC 214 / Electrical and Electronic Theory and Practical Applications for Graphic Arts Printing Technicians

Printing and printing preparation equipment; circuitry and controls to the extent required for fault finding and routine maintenance.

ELTC 215 / Communication Systems

Transmission line parameters, types and impedance matching problems: WG parameters, hardward and smith chart applications; microwave devices - active and passive (klystrons, magnetrons, TWT, bulk effect devices, lasers). Basic radar and typical application; multiplex theory and frequency division systems, applications; Antenna theory.

ELTC 216 / Computer Systems

Computer memories; Magnetic core, solid state, thin film; Machine language programming; Peripheral equipment; teleprinters, high speed printers, drum and disk storage units, magnetic tape storage units, card and tape readers, card and tape punchers, numerical displays, graphical displays; Analog/Digital conversion techniques; DC electronic analog computers.

ELTC 217 / Electronic Laboratory for Acoustics

This course will consist of projects and exercises related to equipment studied in ELTC 218. See ELTC 209A and 209B for department philosophy regarding laboratories.

ELTC 218 / Electronic Systems and Measurements

Investigation of the principles, applications and limitations of complex electronics instruments, wave analyzers, frequency meters, broad band pulsed sweep oscillators, digital display instruments, recorders and other modern electronic instruments.

ELTC 219 / ETV/TV Broadcast Systems

Video systems and transmitting systems; Sync generator, pulse distribution, NTSC generator signal, vectorscope, video amplifiers and switches, vertical interva test signal techniques, transmitter analysis and standards, basic CATV system; TV cameras; color and monochrome cameras, image conversion, color and monochrome cameras chain functions, matrixing devices; Tape recorders, video tape systems, wideband recording, rotating head principles; Telecine theory, film techniques, dubbing systems, telecine chains, film recording of video signals.

ELTC 220 / Telecommunications

Open wire characteristics, distribution cables switchboards, D.C. telegraph, voice frequency, carrier telegraph, telephone carrier systems, telephone principles, switching systems. This course is restricted to those who qualify and obtain the appropriate summer employment.

ELTC 300 / Pulse Technology

Fourier analysis of repetitive waveforms, Analysis of high pass C-R networks; Analysis of low pass C-R networks; Analysis of L-R networks; Analysis of L-C-R networks; Pulse transformers, ideal and practical; Pulse delay lines, parameters, characteristic, response to pulse.

ELTC 301 / Communication Technology II

Transmission line parameters, propagation constants, high frequency considerations and smith chart design; RF amplifier design using h, y and s parameters; microwave active and passive component theory and applications; multiplexing of data signals, frequency and time division theory and design considerations.

ELTC 302 / Computer Technology

Primary memory circuits, general requirements, and types, magnetic core storage, thin film memory solid state memory; Central Processing units, operation of basic CPU, addressing schemes, other CPU structures - one address, two accumulator, two address no accumulator, stack memory; Timing and control circuits, bus structures, ROM, input and output control; Peripherals, types of communication, peripheral devices - magnetic drum, disc, tape; input output devices, keyboard/printer, high speed printers, card reader/punch, paper tape reader/punch; CRT displays; analog computers, building blocks, analog computing components - percision potentiometers, operational amplifiers, multipliers, function generators, monitors, problem solving; Analog/digital conversion; computer control of industrial processes.

ELTC 303 / Automatic Control Systems

Feedback principles, notation and definitions, transform theory; Feedback diagrams, nyquist, stability, bode, etc.; Servos, syncros, servo amp., ward leonard system; Application, transducers, photoelectric controls, induction and dielectric heating, motor controls, chemical controls.

ELTC 304A and 304B / System Design Principles

Introduction, systems, sub systems, modules, contractual and non-contractual requirements; Design requirements, sub systems made by the same contractor, sub systems made by different contractors; Cost, maintenance compatibility, spaces requirements, warranty, delivery; Case study; Project selection.

ELTC 305 / Electronic Mechanical Design Principles

Packaging principles; Materials and finishes; Machine shop; Fastners; Tools; Layout; Chassis design, cost.

ELTC 306 / Component Technology

Purpose of course, cost, reliability, environments, standards; Components, physics and construction, definitions and ratings, electrical and mechanical limitations, environmental effects, tests, resistors, capacitors, relays, transformers, inductors, fuses, circuit breakers, batteries.

ENAMELLING

ENA 170 / Enamelling

Elementary theory and practice - applying enamel to metals.

ENA 180 / Enamelling Cont'd - Jewellery

ENA 270 / Enamelling

Advanced theory and practice - applications in Jewellery.

ENA 280 / Enamelling Cont'd

ENGINEERING DRAFTING

ENDR 100 / Mechanical Drafting

The use of drawing instruments involving geometrical constructions and conventional drafting practices; multi-view drawings, involving principle and auxiliary views; selection of views; scale and size of drawing paper; freehand sketching and dimensioning; drawing of castings and the use of sectional views; dimensioning techniques and common matching notes for drawings; surface finishes, a study of contemporary manufacturing prints; ink techniques and lettering devices; graphs and charts; pictorial forms of drawing and dimensioning.

ENDR 102 / Machine Drawing and Design

Selection of principal views using third angle orthographic projection drawing system. Sectional and auxiliary views. Graphs and charts. Axonometric drawing systems and dimensioning. Conventional drawing practices. Drawing office standards. Dimensioning methods and systems. Preparation of detail working drawings involving tolerances, limits, machine fits and finishes. Machine details such as fasteners, keys, springs, taper pins, and their purposes, selection, and applications. Thread systems; terminology, representation, specifications, standards and applications. Materials of modern industry; ferrous metals,

ENDR 102 / Machine Drawing and Design (cont'd)

non-ferrous metals and plastics. SAE numbering system for steel, heat treatment of steels small tool operations. Technical sketching in the orthographic and the isometric systems. Drawing office systems and work routines; filing systems, change notes, design and layout procedures, printing of drawings, print distribution and records. Common devices and mechanisms such as springs, cams, gears, clamps. Permanent assembly of parts by welding, brazing and soldering. Types of welding. Canadian Welding Bureau symbols and recommended practices. Design of fabricated and welded parts; special design and production techniques for welded products.

ENDR 104 / Pipe Drafting Design

Introduction to pipe classification, jointing methods, and pipe fittings. Valves; types, function and design. Representation of pipes, fittings and valves by single and double line symbols. Drawing methods; orthographic, developed, oblique, isometric and diagrammatic. Pipe bending and shop fabrication methods. Piping detail drawing using various techniques, and unit arrangements of manifolds, bypasses, drains and instrumentation connections. Selection of materials and equipment from catalogues. Pipe supports and hangers. Expansion joints and simple flexibility problems. Pipe insulation.

ENDR 105 / Technical Drawing

Equipment, instruments and materials. Pencil technique, lettering, geometrical constructions. Orthographic projection. Pictorial drawing; oblique, isometric. Dimensioning; fractions, decimals, Ford Rule, dimensioning systems. Freehand drawing; orthographic, isometric, proportions, notes. Sectional views; full, half, offset. Section lining, conventions. Auxiliary views; primary and secondary. Fasteners; threads, threaded products, terminology, symbols, rivets, keys, welding, brazing. Pipe fittings and valves; types of fittings, piping drawings, symbols. Assembly drawing; sectional views, exploded assemblies, bills of material. Detail working drawings; surface finish tolerances, manufacturing methods. Cams; motion, displacement diagrams, cam profiles. Gears; principle types, terminology, manufacturing. Developments; basic descriptive geometry, parallel and radial line developments. Electrical and electronic drawings; symbols, wiring diagrams, instrumentation symbology, block diagram, printed circuits.

ENDR 107 / Kinematics (Geographical)

Techniques of mechanism analysis. Displacement (linear, anguiar); paths of points on rotating bodies, producing specific paths. Linkages; to produce a given path, basic four bar, crank and slider, quick return, reverse, slow motion. Graphic analysis of motion velocity and acceleration, gear trains, cams.

ENDR 113 / Technical Drawing

Application of linkages, levers and cams in various mechanisms; engineering catalogue reference and selection of bearings, materials and basic jig and tool components; assembly drawings and bill of materials.

ENDR 115/ Industrial Engineering

Industrial engineering, history of modern industry. Aspects of industrial organization and management, plant layout, location and construction. Materials handling, production and inspection, quality control, control of production, time and motion study, material control, plant and safety equipment, industrial relations, and incentive payments, personnel selection, training, human relations and labour organization.

ENDR 118 / Descriptive Geometry

Orthographic projection, primary and secondary auxiliary views, basic descriptive geometric principles, points, lines, planes, true lengths and true shapes found by auxiliary views and by revolution. Skew lines, piercing point of a line and a plane. Development of surfaces by parallel lines. Radial line and triangulation methods.

ENDR 119 / Technical Drawing

Review of drafting equipment and instruments, their use, selection and care. Review of geometrical constructions, and terminology. Orthographic projection, principal views, pencil techniques, alphabet of lines and basic dimensioning. Visualization problems involving missing lines and missing views. Principal views in alternate positions. Advanced detail working drawings. Sectional views: full, half, offset, removed, and revolved. Conventional practices and section lining symbols. Small tool operations, surface finish, tolerance, dimensioning problems specifications and notes on drawings. The SAE numbering system for steels. Technical freehand sketchings. Welding drawings. Standard welding symbols as authorized by the Canadian Welding Society. Assembly drawings, bills of material and estimating. Manufacturing processes. Heat treatment of steels. Electrical and electronic symbols, circuit diagrams and schematic diagrams. Symbols for pipe fitting and valves. Piping standards and specifications. Piping drawings. Isometric drawing and freehand sketching. The study of industrial blueprints and specifications.

ENDR 123 / Engineering Drawing and Design

Freehand sketching and machine drafting of various flow diagrams and plant layouts, utilizing standard and specially designed materials; handling equipment as used in industry.

ENDR 130 / Jig Fixture Design I

Freehand sketching and machine drafting of basic jig and fixture designs, emphasizing current production methods and organizations.

ENDR 131 / Jig Fixture Design II

Freehand sketching and machine drafting of advanced jig and fixture designs, emphasizing current production methods and organization.

ENDR 132 / Jig Fixture Design III

Freehand sketching and machine drafting of assembly and welding jigs and fixtures and welding fixtures, emphasizing current production methods and organization.

ENDR 133 / Jig Fixture Design IV

Freehand sketching and machine drafting of cutting tool design, multi-tool layouts and gauge design emphasizing current production methods and organization.

ENDR 134 / Design of Jigs and Fixtures

Freehand sketching and machine drafting of various jigs, fixtures, and other tools used in large scale manufacturing.

ENDR 140 / Die Design

Freehand sketching and machine drafting of basic blaking, piercing and cut-off and bending dies.

ENDR 158 / Drafting and Design

Drafting equipment and instruments, geometrical constructions in common use, one view scale drawings, linework, freehand lettering, orthographic drawings of machine parts, sectional views and auxiliary views, conventional drawing practices, dimensioning of detail parts for manufacture, notes on drawings, machining terms, specifications, pictorial drawings.

ENDR 201 / Drawing and Product Design

Detail working drawings of an advanced nature. Design layout drawings drawn from engineering information and specifications. Projects involving various types of bearings, cams and gearing. Use of manufacturers' catalogues, standard parts, and engineering reference books. Manufacturing tolerances, allowances, machine fits and dimensioning systems as related to product design and manufacturing methods. Application of machine components including linkages, toggles, levels, eccentrics. Design principles and applications of basic gauges such as snap, plug. General design principles of jigs and fixtures. Application of commonly used jigs such as drill, plate, etc., and application of machine fixtures. Basic principles and applications of structural drawing. Checking drawings SAE codes and official specifications.

ENDR 202 / Manufacturing Processes

A study of the factors which determine the selection of manufacturing processes. Casting processes; sand, permanent mould, injection. The forging process. Hot working and cold working, adhesives, powdered metallurgy. Plastics, thermoplastic and thermoset; materials, fundamental characteristics, principles of main processes, design considerations, selection of materials, producting methods and techniques. Welding; welding processes and their applications to product design, production techniques, and materials. Heat treatment of steels. Production machine tools. Automatic machine tools used for thread cutting, gear and cam production, computer control of machine tools. Sheet metal and heavy plate fabrication. Design and cost factors of production. Inspection and quality control. Assembly and testing. Visits to manufacturing plants and industrial organizations will form a comprehensive part of this course.

ENDR 204 / Design and Layout of Piping Systems

Arrangement of piping systems for steam, water, gas, oil, chemicals, using conventional layouts and interpretation of the relevant codes. Layout of equipment, pressure vessels and related piping in terms of efficient flow conditions, and clearance from structural features. Flexibility studies and arrangement of hangers, guides and anchors. Pipe sizing, and pressure drop calculations. Special applications for control valves. Study of common operations, feed heating, condensing, evaporation. Estimation of piping costs. Visit to industrial piping installations.

ENDR 208 / Instrumentation Drafting

Review of technical drawing techniques and conventional practices. Piping drawing using single line and double line presentations. Piping standards, fitting and sizes. Instrumentation symbols, flow diagrams and conventions. Layouts of instrument panels and control boards. Electrical and electronic circuit drawing and diagrams. Structural components and welding drawings.

ENDR 222 / Descriptive Geometry II

Principles and applications involving oblique surfaces. Lines and points in oblique planes. Location of plane figures in oblique planes. Intersections of lines and planes, oblique lines, oblique plane and polyhedron. Dihedral angles. The system of revolution for finding true length of oblique lines, true shape of oblique planes, dihedral angles. Use of counter revolution. Development of surfaces and intersected polyhedrons by triangulation. Pattern and development of drawings, bend allowances, semas, and methods of joining. Single curved surfaces, Development of transition pieces. Double curved surfaces. Contoured surfaces and practical applications such as ships' sheer drawings. Problems which pertain to a wide range of general machine and mechanical industries.

ENDR 225 / Materials and Processes

Study of piping and valve materials, with reference to A.S.T.M. specifications and codes. Welding types and methods. Welding symbols and design considerations. Processes used in food, drugs and petro-chemical industries. Principles of energy systems, atomic fossil-fuelled, and hydraulic pollution control systems. Visits to industrial plant and utilities.

ENDR 241 / Tool Design Theory

Manufacturing engineering organization: cutting tool design, form tools, process planning, turret lathe, tooling layouts, automatic lathes, location and clamping theory, drill jib and fixtures principles, broach design, gauges, presswork, tooling economics

ENDR 242 / Die Design

Freehand sketching and machine drafting of basic blanking, piercing, cut-off, bending, draw and progressive dies.

ENDR 250 / Industrial Engineering

The selection of process of manufacture and case histories of materials handling, plant layout, product flow, cost analysis and maintenance requirements; the selection of equipment from engineering catalogues.

ENDR 255 / Machine Tool Theory

Cutting tools; cutting and tool life theories, loads and forces, use of H.S.S. and carbide tools, positive and negative cutting rakes. Tooling "Set-ups" for turret lathes, cam design for single spindle autos. Set-up considerations for mass production, time study.

ENDR 340 / Die Design III

Freehand sketching and machine drafting of advanced draw dies and complex-blank, pierce and ben progressive dies.

ENGLISH

ENG 100 / Language and Communication

Semester I - Oral and written communication. The development of clear, concise, well organized communication with specific application to technical writing and oral presentations. Assigned readings.

Semester II - Development of logic and ideas. A study of the literature of the related technology. Written and oral presentations.

ENG 100 / Language and Communication (Secretarial Science)

A review of fundamentals: grammar, punctuation and sentence structure; spelling and vocabulary; comprehension exercises; the memo; personal business letters: inquiry, request and response; the basic parts, forms and punctuation styles which are used in business letters; application letter and data sheet.

ENG 100 / Language and Communication (Business Administration)

A review of fundamentals: grammar, punctuation, and sentence structure; spelling and vocabulary comprehension exercises; a detailed study of the report; the memo; personal business letters: inquiry, request and response; oral communication.

ENG 101 / Language and Communication (Business Administration)

The form and punctuation of letters; the purposes and qualities of business letters; letters of inquiry, answers to inquiry, order, claim and adjustment, credit, and collection; the memorandum report; oral communication: panels and debates.

ENG 104 / Business Communication (Secretarial Science)

The qualities of business letters: the positive tone, the reader-oriented attitude, and the basic requirements of business communication; analysis of specific letters; request, response and acknowledgment, order, claim and adjustment; the formal report.

ENG 110 / Business English and Correspondence

English composition; effective English in business communication; rapid reading and comprehension; business letter writing; letters of application, sales promotion, credit, and collection; oral reports; novels.

ENG 111 / Language and Communication

Oral and written business communication; preparation and delivery of formal and informal speeches on related subjects, the precis, technical research report writing, using library research. A study of an anthology of modern short stories.

ENG 123 / Language and Business Correspondence (Fashion Technology Related)

Semester I - Basic English grammar and composition, vocabulary of trade, spelling, pronunciation and use of trade terms. Use of dictionary, library. Sentence structure and paragraph structure. Reading for comprehension.

Semester II - Business correspondence; study of various types of the business letter and forms. Practice in writing and answering business letters applicable to trade. Preparation of business forms. Reading for comprehension.

ENG 132 / English (Fashion Technology Related)

Language and Business Correspondence (Jewellery and Fashion Oriented)

ENG 142 / English (Fashion Technology Related)

Language and Business Correspondence Cont'd.

ENG 151 / English (Fashion Technology Related)

Review basic grammar and composition as required. Oral skills: employment interview, panel discussion, giving a talk. Economic, sociological and psychological factors influencing fashion.

ENG 152 / Language of Fashion

basic and oral skills, factors influencing Fashion cycles. Furniture Terminology.

ENG 161 / Language and Communication

Historical development of fashion. Careers of famous designers. Print and broadcast media and the fashion show.

ENG 162 / Language of Fashion

Manufacturers of fashion, apparel mass media and Furniture Terminology.

ENG 200 / Language and Communication

Semester I - The preparation and delivery of formal talks and lectures on technical subjects. The philosophy of good writing. Assigned reading.

Semester II - Technical research; study of basic library resources used in research. The technical report; organization and format. Assigned reading.

ENG 201 / English and the Business World (Secretarial Science)

Vocabulary; grammar; punctuation; credit and collection letters; social business letters; sales letters; the memorandum report; oral communication.

ENG 201 / English and the Business World (Business Administration)

Psychological techniques of letter writing; sales letters, advertisements, the memo, social business letters, brochures and company bulletins; oral communication: job interview, panel discussion, simulated business conference; business problems; literature used as a basis for speech practice and discussion; articles of interest to the business student; the precis.

ENG 204 / Business Communication (Secretarial Science)

A review of fundamentals; the job getting process; a statistical report; a memo series; letters; planning meetings and conferences; oral communication; literature.

ENG 210 / Communication

A study of different aspects of report writing. Oral presentation of topics related to food management. Special attention will be paid to the positive approach to business communications. One novel or play may be studied.

ENG 251 / English (Fashion Technology Related)

Literature pertaining to important eras of fashion history cyclical movement of fashion. Basic business communication i.e. letters, memos.

ENG 252 / English (Fashion Technology Related)

Emphasis on oral and written technical reports from trade publications. Writing personal resume and letter of application, employment interview.

ENG 261 / English (Fashion Technology Related)

Career opportunities in fashion: manufacturing, retailing, advertising. Materials of fashion: textile fibers, leather, fur. Trends in current market. Psychology of dressing.

ENG 262 / Terminology of the Furniture Business IV

ENG 300T / Technical Report Writing

This is one semester course comprehensively covering most aspects of writing a major original thesis or report assigned by the Electronics department. It will give the student step-by-step guidance in organizing, preparing, and composing a formal report.

ENG 301/304 English and the Legal World (Court Reporting)

This course will contribute to the development of the highly specialized legal vocabulary required and will also help to generate a first-rate general vocabulary. It will give extensive experience in transcribing accurately from the spoken word and will include punctuation, capitalization, and grammar. It will demonstrate man's view of law and justice as seen by fiction and non-fiction writers. Since the focus of attention is law, the student will be exposed to the extraordinary effect that the law in all its forms - legislative, judicial, ecclesiastical, and military - has had on literature. This course will include research on the historical derivatives of current law and study of A Manual For Court Reporting.

ENG 361 / English (Fashion Technology Related)

Emphasis on analytical oral reports and critical written reports pertaining to the apparel industry.

ENG 351 / English (Fashion Technology Related)

Continuation of second year stressing spoken communication with emphasis on listening and comprehension.

ENG 511/521/530/541 Language and Communication

Understanding words: use of dictionary, building words, signs and slogans, choice of words. Sentence structure: qualities of good sentence, expression of ideas. Paragraph structure: logic, clarity, relevance, progression of ideas. Communication: precis writing, reading for comprehension, the technical report, business correspondence, oral presentations.

ENG 540 / Basic English

This course will emphasize reading and spelling, phonics, simple sentence patterns, penmanship.

ENG 542 / Basic English

This course will emphasize reading, spelling and sentence structure; basic grammatical terms and simple paragraph writing.

ENG 546 / English

Grammar and punctuation; paragraph and short essay writing; precis writing; introduction to letter writing; spelling and vocabulary development; selections from Canadian literature.

ENG 547A / English

Basic communications designed to improve reading rate and comprehension, vocabulary range, principles of discussion and debates; the English language in terms of origin, factors that cause a language to change and standards of usage; essays emphazing creativity will also be required. A detailed analysis of the short story, poetry and short plays will be included from twentieth century literature.

ENG 547B / English

Techniques used by various writers as guidelines for the students in assessing their own work; listening and oral skills with emphasis on debates, presentations, and simulated meetings; basic business communications and report writing; detailed analysis of representative twentieth century writers with emphasis on drama and novels.

ENG 551 / English (Fashion Technology Related)

Review basic grammar and composition. Economic, sociological and psychological factors influencing fashion.

ENG 552 / English (Fashion Technology Related)

Fashion Communications III - basic and oral skills; factors influencing fashion; famous designers.

Eng 553 / English (Fashion Technology Related)

Fashion Communications V - basic and oral skills; factors influencing fashion; historical development of fashions; fashion cycles.

ENG 561 / English (Fashion Technology Related)

Historical development of fashion. Careers of famous designers. Discuss employment interview - outlines and examples of how to write resume and letter of application.

ENG 562 / English (Fashion Technology Related)

Fashion Communications IV - historical development of fashion, career opportunities in Fashion; mass media.

ENG 563 / English (Fashion Technology Related)

Fashion Communications VI - mass media; career opportunities in fashion; fashion show commentary.

ELECTIVE STUDIES

ES 200 / Music and Speech

A course directed to voice improvement and nerve control with music as motivation.

ES 203 / Human Relations

Relates psychological concepts to the inter-personal relationships involved in work situations.

ES 204 / Effective Supervision in Industry

Examines the attributes generally required by an effective supervisor.

ES 205 / Media and Environment

A study of our immediate environment and the media that makes us aware of it.

ES 211 / Twentieth Century Thought

Examines the arguments relating to current issues. It is approached from a social and political perspective.

ES 214 / Communication Skills

Reading and comprehension exercises, study skills, and writing practice.

ES 216 / Political Science

Concentrates on Federal Government institutions and politics.

ES 217 / Commonwealth Literature

A study of four short novels from various commonwealth countries.

FABRICS

FAB 150 / Characteristics

Characteristics of fabrics requiring special knowledge re sewing, ironing, pressing, packing, molding, etc.

FAB 151 / Selection

The selection of the right thread with the right needle at the right time; stitches, etc. for various fabrics, etc.

FAB 250 / Behaviour under Working Conditions

Fusing, pressing, etc.

FAB 251 / Fabrics

Knits, dyes, processing procedures including synthetic and natural fibres.

FAB 252 Measurement

How to measure and make drapes and slipcovers I.

FABRICS (cont'd)

FAB 261 / Testing Fabrics

Bursting, fading, abrasion, other fabrics such as plastics.

FAB 262 / Measurement

How to measure and make drapes and slipcovers II.

FAB 350 /

How to purchase, justify, stock and promote; working with mills; special designs, etc.

FASHION

FASH 100 / Fashion Business Procedures I

Basic business knowledge and law; opening a business; licenses; taxes; (role-playing), etc.

FASH 101 / Fashion Business Procedures II

Insurance; auditors, bookkeeping; reporting, etc. (role-playing).

FASH 110 / Fashion Runway Modelling

Fashion Showings.

FASH 201 / Fashion Business Procedures III

Corporate structures; partnerships; obligations and privileges, (role-playing).

FASH 202 / Managerial Accounting III

Financing - Ways and Means - SEC.88, Banks, Loans, etc.

FASH 211 / Fashion Business Procedures IV

Inventory-taking, controls, etc., costing; pricing; sales; laws; consumer information, etc.

FASH 500 Fashion Business Routines

Role-Playing; Semester I

FASH 501 / Fashion Business Routines

Semester 2

FITNESS

FIT 100A /

Statistics and measurement, procedures are studied and sub maximal fitness tests are examined.

FIT 100B /

A followup to Fitness 100A involving more elaborate testing. Skinfolds, strength testing, cardiovascular testing, and an introduction to gas analysis are studied.

FIT 101A /

The first of a two semester lecture and laboratory course in Gross Human Anatomy. This section includes a detailed study of the skeleton, upper limbs, thorax, abdomen, pelvis and perineum.

FIT 101B /

The second part of a two semester lecture and laboratory course in Gross Human Anatomy. Included in this portion is a detailed study of the skeleton, lower limbs, head, neck and central nervous system.

FIT 102 /

Psychology of Exercise studies the components involved in total fitness and how they (social, emotional and physical) interact.

FIT 103 /

Effects of physical activity on the muscular, circulatory and respiratory systems of the human body are studied.

FOOD PREPARATION

FP 100 / Food Preparation I and II

The student is introduced to basic cooking by preparing basic stocks, soups and sauces followed by preparation of vegetables, rice, pasta products, egg dishes and the usage of basic flavourings, herbs and spices. Extensive instruction is given on the cooking of seafood, meats and poultry, and practice in the preparation of these dishes is arranged.

FP 203 / Convenience Foods

A study of the influence of consumer demands in establishing the gross parameters of research and development in the industry. Explanation and study to do with the manufacture and packaging techniques used in the fabrication of convenience foods. Quality testing improvement and convenience requirements.

FRENCH

FR 100 / Conversational French for Beginners

This is an introductory course dealing with the use of French in everyday life situations - at school, at work, shopping, travelling, eating out, seeking information, etc. Since this is a beginners' course, it is intended for students who have no previous knowledge of French or those with a limited knowledge of high school French. Students already fluent in French are not eligible for this option. Secretarial Science students will have first priority.

FT 100 / Food Products & Standards

Food products which are available to, and commonly used in, the hospitality industry are classified and discussed in specific groups as to their grades, sizes, availability, marketing methods, standard containers, and quality factors; vegetables, fruit, dairy products, cereals, beverages, poultry, fish, shellfish and meats.

FT 130 / Quantity Food Preparation Practical

The four basic stocks, the six basic sauces and their derivatives, the preparation of garnishes and their uses, rice cooking as entrees and appetitives, pasta dishes as entrees and garnishes, the roasting, broiling, steaming, poaching, boiling, deep fat frying and grilling of all meat, fish, poultry and game, egg cookery as entrees and garnishes, salads, and dressings, sandwiches hot and cold, preparation of hot and cold buffet, cold buffet decoration, the use of herbs, spices and wines in cooking.

FT 131 / Advanced Quantity Foods

In order to apply the theory the apprentice chef is now introduced to laboratory work. All aspects of professional food preparation including most of the popular items and dishes occurring on national and international menus are demonstrated to the student and produced by him under the supervision of an instructor.

FT 200 / Food Engineering

This course will be over two semesters, covering the engineering concepts and unit operations applicable to food processing.

SEMESTER I: Mechanics; fluid mechanics; transfer and rate processes, process control instrumentation.

SEMESTER II: Unit operations; fluid flow, heat transfer; evaporation; drying; extractions; distillation; filtration; mixing; material handling.

FT 201 / Food Processing

This course will cover two semesters. The general characteristics of food raw materials, harvesting, assembling and receiving of raw materials; methods of food preservations; chemical, canning, freezing, drying; processing objectives including factors influencing food acceptability and government grading; packaging, water; waste disposal; sanitation.

(Plant tours will be used to supplement the lectures and will be combined with Food Engineering).

FT 300 / Evaluation and Control of Food Quality

(a) A discussion of the Quality Control Department, responsibilities, economics of product quality, development of policy; relationship to management, sales and purchasing, research and development and production. Establishing of specifications for all materials and ingredients, processes and finished products. Sampling, trouble shooting.

FT 300 / Evaluation and Control of Food Quality (cont'd)

(b) An intermediate course including a review of basic statistics (Frequency distribution, theory of probability, nature of variation, Guassian, Bonomial, Poisson and Hyper-geometric probability); control charts for variables (x-R) control chars for attributes (P & C charts); theory of sampling - (Dodge-Romig, military standards): machine capability.

FT 301 / Food Processing

This course is an advance treatment of FT 201 and devoted to those processes in which two or more ingredients are combined to produce a food product.

FUR

FUR 143/543 / Theory and Recognition of Furs

Familiarization with more than seventy different furs of ten families in all their mutant, processed and dyed forms; parts and uses of various pelts; raw and dressed furs and the processing of one into the other; wild furs and bred furs and their differences by section, genetics, and food; introduction to the profitable breeding of fur-bearing animals; care and maintenance of fur pelts and garments, including storage, cleaning, repairs, fur insurance, handling; some Canadian history as it evolves from fur trading. Recognition labs and plant visits.

FUR 144/544 / Fur Manufacturing Techniques

Care and operation of tools; selection of factory materials and sources of supply; introductory fur matching and selection of pelts for garments; preparation for cutting; introductory cutting and slicing; introductory operating and machine sewing; blocking and nailing to pattern up to the finished article; study of textiles used in fur factory; detailed study of six of ten fur families used in industry, including techniques of manufacture; making of fur hats, collars, ascots, vests, novelties, etc.

FUR 145/545 / Fur Fashions

History of fur fashions and fads from the caveman; introductory fur design, introduction to fitting, altering, sizing fur garments and paper patterns for fur styles with reference to advanced work in special measurements, creativity, copying, field visits and observation. Students will each make:
Men - Fur hat (wedge type) and fur vest;
Women - Fur hat (Pillbox type) and fur ascot.

FUR 146 / Consumer Education

A special module covering the recognition of different furs and how they are described for selling purposes - consumer education re fur and fashion.

FUR 147/547 / Fur Marketing

Discussion of trapping by Indians, Eskimos, other Canadians; handling of raw pelts at source: collectors; fur skin dealers; fur auction sales; international markets; royalties, duties, taxes, fur ranchers (farmers); purchasing by manufacturer; distribution by manufacturer of finished garments; showings and fashion shows, fur retailing by department stores, fur stores, custom furriers, ready-to-wear stores; fur advertising and promotion; fur public relations and business ethics. Field visits and shows.

FUR 153/553 / Advanced Segment of FUR 143

Semester II

FUR 154/554 / Fur Manufacturing Techniques (Advanced Segment)

Semester II

FUR 155/555 / Fur Fashions (Advanced Segment)

Semester II

FUR 156 / Consumer Education

Care and maintenance (Advanced Segment) - Semester II

FUR 157 / Fur Marketing

Advertising; buying, (Advanced Segment) - Semester II

FUR 243 / Look-Alikes

Stencils; unusual furs

FUR 244 / Manufacturing

Dropping ("let-out"); geometrics

FUR 245 / Original Fur Design and Pattern Drafting

FUR 247 / Advanced Fur Buying

Skins, garments

FUR 253 / Fur Recognition

Stencils and unusual furs.

FUR 254 / Manufacturing Techniques

Advanced

FUR 255 / Fur Design and Pattern Drafting

FUR 257 / Advanced Fur Buying

Fur garments; auction sales; international markets.

FURN 101 / Cabinet and Chair Making

The student will make a series of projects designed to cover the basic skills and techniques required in making cabinets and furniture.

FURN 102 / Wood Machining

Safety precautions and practices that should be observed will be stressed. Principle operations of the basic woodworking machinery will be practiced.

FURN 103 / Finishing

Surface preparation and basic colour treatments including straining and glazing. Hand and spray application of varnish, shellac and lacquer.

FURN 104 / Upholstery

Practical elementary upholstery including: sinuous springing, cutting, power sewing, stuffing, fabric application and trimming.

FURN 105 / Materials

Studies and discussions on materials used in the Furniture industry.

FURN 106 / Technical Drawing and Blueprint Reading

Introduction to Orthographic and Pictorial Drawing and Elementary Blueprint Reading.

FURN 108 / Factory Organization

Factory legislation, health and safety measures. Short history of the rise of the factory system.

FURN 151 / Cabinet and Chair Making

The student will make projects designed to add to his basic knowledge and skill of cabinet and chair making. This will include making patterns, veneering both flat and curved surfaces.

FURN 154 / Upholstery

Practical upholstery including: webb and coil springing, fitting fabrics and cushion filling.

FURN 155 / Materials

Studies and discussions on materials used in the Furniture industry, continued.

FURN 156 / Technical Drawing

Intermediate orthographic and pictorial drawing.

FURN 157 / Design

A history of design and evaluation of furniture from earliest times to modern times.

FURN 158 / Factory Organization

Communication, method study, work study, production and quality control.

FURN 162 / Wood Machining

Setting up and operating woodworking machinery in such operations as turning, shaping, routing, and making simple jigs will be included in this section.

FURN 163 / Finishing

Treatment of surface faults before and after finishing. Stripping and refinishing old furniture.

FURN 201 / Cabinet and Chair Making

The projects that the student will be making in this section are designed to cover the advanced techniques and skills in cabinet and chair making. Simple caring will be included.

FURN 202 / Wood Machining

Machining theory and maintenance, and making jigs, saddles and templates.

FURN 203 / Finishing

Development of finishing systems. Application and use of special colour treatments including shading, bleaching, distressing.

FURN 204 / Upholstery (including Field Trips)

Practical upholstery including: spring edges, channel backs, tufted backs and fan backs. Field trips to local upholstery shops and factories.

FURN 205 / Materials

Studies and discussions on modern materials entering the Soft Furnishing industry.

FURN 206 / Technical Drawing

Advanced orthographic and pictorial drawing.

FURN 207 / Design

Standard practices in the design of cabinet work and chair making. The physical relation of people to furniture.

FURN 208 / Factory Organization

Purchasing, stock control and costing.

FURN 209 / Colour

Munsel colour system.

FURN 251 / Cabinet and Chairmaking

The student will make furniture of his own design as well as repair, restore and renovate old pieces of furniture.

FURN 254 / Upholstery (Including Field Trips)

Practical upholstery including: semi-attached backs, leather or leatherette application, antique restoration and re-styling. Field trips to shops, mills, exhibitions, etc.

FURN 255 / Materials

Materials used in antique upholstered furniture.

FURN 256 / Technical Drawing

Production made and custom made furniture drawings.

FURN 257 / Design

The relation and arrangement of furniture to its environment. The student will also originate a project of his own design.

FURN 258 / Factory Organization

Small business management, and employer-employee and customer relations.

FURN 259 / Colour

Munsel colour system (cont'd).

FURN 260 / Costing

Estimating the cost of new upholstered furniture.

FURN 262 / Wood Machining

Advanced machinery techniques. Grinding and sharpening of saws, knives, and cutters will be covered as well as mechanical adjustments and minor repairs to woodworking machines.

FURN 263 / Finishing

Special hand and spraying techniques including French polishing. Touch-up and restoration of defects in old or damaged finishes.

FURN 264 / Antique Upholstered Furniture

Studies of antique upholstered furniture and reproductions.

FURN 552 / Finishing

As FURN 103 - Condensed.

FURN 553 / Upholstery

As FURN 104 - Condensed.

GD 100 / Still Life Drawing

The student will do still life drawing in line and then add shading.

GD 101 / Life Drawing

Starting near end of the first semester, contour and line drawings are applied to life drawing. Quick gesture and action poses are emphasized. A completely finished rendering of the life figure drawing in large size is required near the end of the course.

GD 102 / Lettering

A thorough exposure is given, beginning with history, current usage, terminology and family. Practical application is the keynote, commencing with pencil, pen, brush and felt tip indication. Co-ordinated with knowledge gained, emphasis is placed on devising letters to indicate special effects. Modern equipment is available for photocomposition.

GD 103 / Design

The students will be taught two dimensional design in which a frame of reference will be used, and they will be asked to use geometric and free shapes, arranging these shapes in a way to produce contrast value and textures. They will produce some basic advertising layouts.

GD 104 / Science of Colour

The students will make an extensive study of the Munsell Colour System, drawing a colour wheel and producing various colour combinations using the Munsell System. They will also be asked to design colour value exercises.

GD 105 / Museum Techniques

Using objects d'art, in a series of galleries at the Royal Ontario Museum, various techniques are applied to render commercially oriented projects.

GD 106 / Mechanicals

The student will be taught how to use a drafting set to produce finished mechanical drawings, and the basic uses of amberlith overlays.

GD 107 / History of Art

The students will be taught the basic history of art and how it relates to the present graphic design situation, so that they may use some ideas from history to develop for today's advertising art.

GD 108 / Illustration Techniques

The student will be required to use various commercial techniques such as black and white wash drawings, pen and ink technique, and felt pen technique.

GD 109 / Typographical Design

The students will be taught the basic measurements of type, and they will also receive some instruction on setting metal type. They will also receive instruction on cold type and its application, and they will be asked to design with type and will be taught to do basic mark up.

GD 111 / Studio Graphics

The second semester: the student will be required to design a newspaper ad using felt pen for rendering, and to produce a finished mechanical drawing. He will do other design projects using the same technique.

GD 201 / Illustration

Concepts in books, magazines, newspapers, T.V. graphics. A course mainly concerning applied art, but also encompassing personal picture making.

GD 202 / Abstract Design

The student will be encouraged to give free range to his abstract capabilities in the field of graphic design, with emphasis on corporate images.

GD 204 / Printmaking

Students are taught the three methods of screen-making: Tusche, handcut, photographic - and apply these methods, using suitable inks to print their own art work.

GD 205 / T.V. Graphics

The student will produce layouts for program titles, commercials, interludes and animation storyboards.

G.D. 207 / History of Art

The Bauhaus School and Ant Nouveau are thoroughly examined, their connections with modern advertising trends are intensively studied.

GD 209 / Life Drawing

The various components which make up drawing are explained, interpreted, and put into practice using live models. Students are encouraged to draw naturally rather than from preordained methods of style.

GD 211 / Studio Graphics

The student will be required to design under studio conditions, one or two package designs and carry out the finished art work. He will also be required to design a mock-up for an annual report and do additional graphic design projects.

GD 212 / Advertising Design

The student will design more advanced newspaper layouts - also magazine layouts and a comprehensive advertising folder and to do the finished mechanical art for these projects. The student will do additional designs as time permits.

GD 213 / Photographic Design

The student will learn the basics of cameras and their accessories, films, lighting, dark room techniques and will produce graphic designs using photographs, photograms, and develart.

GD 302 / Illustration

The student will be required to render advanced illustration with emphasis on drawing and various drawing techniques such as brush, pen and ink, stipple work. Each illustration drawing technique will be based on a project such as illustrating a story, illustrating for books, illustrating for advertising. All work will be at an advanced level.

GD 303 / Printmaking

Accent is placed on complete photomechanical methods to prepare the student's own artwork for reproduction. It is carried out to the finished stage by screen-process printing.

GD 304 / Package Design

This will be an advanced package design course in which the student will produce a series of packages for one product and use various techniques such as Schmidt coloured papers to make comprehensive sketches and also to produce mechanical drawings.

GD 305 / T.V. Graphics

A more advanced program of T.V. Graphics than is offered in the second year. The student will work in the particular area of T.V. Graphics in which he wishes to specialize in industry.

GD 306 / Advertising Design

The student will select the area of Advertising Design in which he wishes to specialize in industry. He will concentrate on these areas.

GD 307 / Photographic Design

The student will do advanced photography in colour as well as in black and white using the 4" x 5" Sinar camera and will use photographs for Package Design, T.V. Graphics, Studio Graphics, etc.

GD 500 / Foundation Drawing Research

To up-grade the student's drawing skill and improve his knowledge of research the student will be asked to sketch local houses in the area using various drawing techniques.

GD 501 / Foundation Still Life Drawing

The student will draw still life objects - first using line and when this is perfected he will then add shading to the drawings. He will later do some life drawings.

GD 502 / Foundation Lettering and Typography

History of lettering will be covered and current usage and terminology and current type faces will be studied. Practical application - the student will learn how to do lettering in pencil, pen, brush and felt tip indication.

GD 503 / Foundation Design

Two dimensional design will be taught using a frame of reference. Geometric and free shapes will be arranged to produce contrast in values and textures, etc.

GD 504 / Foundation Colour

An extensive study will be made of the Munsell colour systems. The student will draw a colour wheel. He will do renderings using one colour and five values. Also renderings using two colours and ten values.

GD 505 / Foundation Techniques

The student will be instructed in frequently employed techniques of drawing. Particular emphasis will be placed on the suitability of each methods for reproduction.

GD 506 / Foundation Mechanicals

To upgrade the student's ability to make mechanical drawings. The drawings will be made using 4H pencil and a drafting set to draw and to apply ink to drawings.

GD 507 / Foundation Drawing Perspective

The student will be taught how to make drawings using 1 point perspective, 2 point perspective and 3 point perspective.

GD 510 / Package Design

The student will be asked to complete several package design projects. Two box designs and one flexible package design. Students will be required to make mechanical drawings for every package design they produce.

GD 511 / Advertising Design

The student will produce several advertising layouts for newspaper and magazine. He will also do the finished mechanical drawings for these layouts.

GD 512 / Promotional Design

The student will be asked to produce several promotional art pieces. He will design these particular jobs and also produce the mechanical drawings required to print them.

GD 513 / Corporate Design

The student will be asked to produce a corporate image or design for a particular company. He will then be asked to use this design to produce all the stationery the company would require, such as letterheads, business cards, etc., and to show how this design may be used on a company's vehicles.

GD 514 / Life Drawing

The student will produce drawings from the model in various techniques in order to improve his drawing ability and so help him in commercial art.

GD 515 / Typography

The student will produce several designs using type alone, he will also be acquainted with the measurement of type and will cover some basic mark up.

GEMMOLOGY

GEM 167 / Elementary Gemmology

Study of precious stones - cuts, shapes, etc.

GEM 177 / Gemmology

Gemmology continued.

GEM 267 / Intermediate Gemmology

Study of precious stones - leads to exams of the Gemmological Association of Great Britain Fellowship.

GEM 277 / Gemmology

Continuation of GEM 267

GEM 367 / Advanced Gemmology

Study of precious stones for experienced students

GEM 377 / Gemmology

Continuation of GEM 367

GR 100 / Layout, Design, Typography

Basic principles of layout, design, and type face selection. Typography in various media; newspapers, books, brochures, advertising, etc. The relationship of typography with other arts. Preparation of mechanicals, illustrations, and display advertising.

GR 101 / Hot Metal Composition

Principles of type composition. Make-up of jobs using hand composition, ludlow, saw, mitering machine and repro-proof press. Job planning including considerations for printing and binding. Development of hot metal machines, their mechanisms, and machine principles. Preventive maintenance and safety regulations. Setting of matter justified, flush left, flush right, centered, leadered work and tabular; proof reading. Typesetting a project, which will be printed.

GR 105 / Photomechanical Reproduction

A basic course covering the operation of process cameras. The calibration of process cameras and darkroom equipment for line, fineline and halftone negatives. The application of coloured filters and use of panchromatic film. Making photographic contacts, duplicates, spreads and chokes. The theory of photographic lenses, light sources, film emulsion and processing solutions.

GR 110 / Film Imposition and Printing Surface Preparation

A basic course for black and white and line colour stripping. The course introduces job planning and layout of flats containing line negatives, halftone negatives, line colour negatives, halftone negatives, line colour negatives and duotones. Imposition is included with the preparation of folded dummies and layout sheets for various types of bookwork. Darkroom techniques for making photographic contact and the exposing and development of presensitized offset plates are an important part of this course.

GR 114 / Machine Printing Letterpress

Press equipment. Heidelberg automatic platen, Model "T" 10" x 15". Heidelberg automatic cylinder 15" x 20 1/2". Course covers safety, housekeeping, lubrication, paper handling, press familiarization, set-up and adjustments, feeder and delivery, imposition, register, packing and makeready, letterpress inks, paper stock, running problems and corrections.

GR 115 / Machine Printing (Basic Offset)

A beginners" course covering the fundamentals of offset lithography, feeding dampening systems (both conventional and alcohol), ink control, and running of one colour, multi-colour and process colour projects. This program leads to GR 116.

GR 116 / Machine Printing (Offset)

Larger single color presses. Good housekeeping and safety, lubrication. Measuring instruments and devices for pressmen. Cylinder arrangements, Dampening system, conventional and with alcohol, inking and register systems. Plate, paper and ink as related to the pressman. Successful operation of a single color press.

GR 125 / Binding and Finishing

Handling stock. Introduction to Citation Autospacer and basic cutting. Introduction to 17 x 22 and 26 x 40 Baum Folders and elementary folding. Operation of Bostitch I9E. Drilling and round cornering. Basic hand binding and stamping. Job planning.

GR 202 / Photocomposition (Operation)

Operation of AKI keyboard, Margenthaler VIP, daylight processor; and operation of CG7200 display unit. Font grid changing procedures; main memory and width table loading. CorRecTerm operation. Basic VIP operating principles and comparison with Photon 713-10/20. Format writing and storage. Routine maintenance.

GR 205 / Photomechanical Reproduction

An advanced course in halftone photography and machine processing. Includes the operation, maintenance and control of film processors, use of reflection and transmission densitometers. The calibration of various types of contact screens to camera and processing conditions. Making duotones and other techniques. An introduction to colour separation procedures.

GR 210 / Film Imposition and Printing Surface Preparation

Advanced techniques in black and white, line colour and four colour process stripping are introduced. Also included are: contact work and making spreads and chokes, the preparation of various types of offset lithographic plates, step and repeat methods and an introduction to the programming and operation of a photocomposing machine.

GR 214 / Machine Printing Flexography

Press equipment is a two-unit "Lembo" flexopress. Course covers safety, housekeeping, lubrication, roll feed and web tension, the printing unit, flexographic process, services on press of air, water, gas and electrical controls, oven drying, roll rewind, circulating pump for inking system, flexo inks and their compatible solvents, ink viscosity measurements, rubber plates, anilox rolls, ink metering system, position and register, substrates, running problems and corrections.

GR 215 / Machine Printing Rotogravure

Press equipment is a two-unit "Lembo" rotopress. Course covers safety, housekeeping, lubrication, roll feed and web tension, the printing unit, rotogravure process, services on press of air, water, gas and electrical controls, oven drying, roll rewind, circulating pump for inking system, roto inks and compatible solvents, ink viscosity measurements, doctor blade finishing, position register, substrates, running problems and corrections.

GR 216 / Machine Printing (Offset Intermediate) Single Colour

Offset lithography on single colour Heidelberg, Harris and Miehle Presses at the intermediate level. Course content emphasizes colour matching and projects. Projects run during this course will include one colour, multi-colour and process work.

GR 217 / Machine Printing (Offset - Intermediate) Two Colour

Offset lithography on two-colour Harris and Miehle Presses. Fundamentals of two-colour offset lithography, feeding, inking systems, dampening systems, (conventional and alcohol), press familiarization, theory and practical application of two-colour offset printing. This course leads to advanced pressmanship.

GR 220 / Quality Control

Paper and board manufacture. Quality assurance tests for printability and runnability of coated and uncoated paper and board for Letterpress, offset, flexography and rotogravure. Formulation of inks and their properties as related to each major printing method. Procedures and tests to obtain optimum print quality through the combination of a particular type of ink, paper and the method of printing.

GR 225 / Binding and Finishing

Intermediate folding. Binding magazines. Operation of Muller Automatic Stitcher. Operation of Muller Gathering Machine. Cerloc Combo. Flush cut hard cover binding. Adhesive Binding and the Pony 5 Muller Roto-Binder.

GR 250 / Electronics

Familiarization with electrical systems as applied to Graphic Arts machinery, followed by simplified electron theory. Theory is applied to a wide range of electrical and electronic devices to enable the student to conduct preliminary trouble shooting using schematics and simple test equipment following proper safety procedures.

GR 300 / Typographic Design and Layout

A review of basic typographic design principles and copy fitting problems followed by production of comprehensive layouts, some of which are used in the later typesetting course. Assignments will involve the designing of a set of business stationery, a six page brochure; and, a number of tabular items. Each student will be required to formulate a house style in keeping with current trends.

GR 301 / Computer Peripherals and Typesetting

This course develops the ability to apply computers to typesetting. It involves the terminology of computers and discussions of both general purpose and special purpose devices. Each student is required to rewrite a width table for the Photon 713-10/20. Paths of students are sent out to plants employing diverse phototypesetting devices to gather data on which to lead class discussions of the various systems.

GR 302 / Paste-up and Film Assembly

Paste-up is taught at the beginning of this course but the emphasis is on the assembly of positive film. Two-colour forms are assembled using a register pin system and mylar base. The level of work reaches that of the leading typesetting houses. In addition, a contact printing and headlining is taught.

GR 303 / Photocomposition Tape Input

Input will be by raw tape perforator, programmable keyboard, and counting keyboard. Correction will be by CRT terminal. In the counting keyboard session, comparisons will be made to the Monotype system. Out-put will be Mergenthaler VIP. A high standard of accuracy is demanded of students and the level of work will be in the order of tabular, shape and catalogue typesetting. The final part of this course will be programming.

GR 304 / Advanced Keyboard Techniques

The operation and theory of more sophisticated counting keyboards; the uses of programmable keyboards; the advantages and disadvantages of such systems as the Monotype Keyboard and the Dvorak Keyboard. The student will be expected to produce several items of work using both the Monotype; the AKI-PCI 120; the MPMS counting keyboard.

GR 305 / Photomechanical Reproduction

A course designed for students with line and halftone experience. Covers direct and indirect colour separation procedures by various methods. Colour correction by photographic masking. Basic Colour theory. Making screened positives and contrast control, using CC filters. Includes the operation and control of film processors, densitometers, enlarger and related equipment.

GR 306 / Photomechanical Reproduction

Covers the study of tone reproduction for black and white and colour printing. The manipulation of tones taking into consideration the characteristics of the press, paper, plate, film and processing conditions and the copy to achieve quality reproduction on the printed sheet. Practical application of tone reproduction study using camera, enlarger and contracting.

GR 307 / Photomechanical Reproduction - Gravure

Introduction to reproduction for the gravure printing process including making of continuous tone negatives and positives, halftone negatives and positives with the gravure screen for monotone printing. Transparency masking and colour separation procedures, continuous tone and screened negatives and positives for colour. Use of carbon tissue in transferring the image to copper, etching the copper and proofing resulting plates.

GR 310 / Film Imposition and Printing Surface Preparation

The emphasis at this level is on four colour process stripping procedures including the preparation of flats containing chokes and spreads, take colour and colour separation. Colour charts are prepared by the student incorporating the various screen angles and tints. Further experience will be gained in manual step and repeat methods and machine photocomposing.

GR 311 / Film Imposition and Printing Surface Preparation

This course provides for the practical application of all previous courses on this subject in the areas of contacting, stripping, photocomposing and job planning. It will also include platemaking problems and their solution and pre-press colour proofing methods.

GR 312 / Film Imposition and Printing Surface Preparation

This is a combination of camera, stripping and platemaking that allows the student a number of choices that include completing a project through camera, stripping and platemaking, or performing practical work in any one or more of these areas.

GR 313 / Technical Project

A single block of training where a student completes a project from conception through design, composition, camera, stripping and platemaking, to press and bindery. It must be at least two colours involving half-tones, duo-tones and tints, photocomposition and bindery operations.

GR 314 / Die Cutting and Embossing

Following a refresher or instruction on platen and cylinder press as required, the course will cover die manufacturing processes; die cutting and creasing; perforation slot cutting; plate sinking; hot and cold embossing and a demonstration of foil stamping.

GR 316 / Machine Printing Two-Colour Offset Press (Advanced)

Register, cylinder arrangements, application of Ph, pressroom chemistry, paper, ink, colour matching and densitometer application. Projects run during this course will include two-colour, multi-colour and process colour work.

GR 317 / Machine Printing Rotogravure (Advanced)

Exercises in two-colour rotogravure printing.

GR 318 / Machine Printing Flexo (Advanced)

Projects in flexographic printing on various substrates

GR 319 / Multi-colour Press Projects

GR 320 / Process Colour Press Projects

Special individual printing projects selected in co-operation by the student and instructor to develop the student's capability on particular presses. Special attention will be paid to colour control and all aspects of importance in commercial work.

GR 321 / Press Theory and Maintenance

The maintenance of each press taught in third year and the theory of various dampening systems used in offset lithography is stressed to ensure proper corrective action for press problems.

GR 322 / Cold Type Mark-up

This course is to introduce students to various methods of mark-up currently in use. It begins with hot-metal mark-up and then progresses to cold-type mark-up, the course culminating in mark-up for computer typesetting. The kind of difficulties experienced in the use of different output units will be discussed. Students will be encouraged to develop a mark-up system of their own.

GR 325 / Bindery - Programmable Guillotine

GR 326 / Bindery - Rotobinders

GR 327 / Bindery - Advanced Folding 26 x 40 Baum

GR 328 / Bindery - Gatherers

GR 329 / Bindery - Stitchers and Sewing Machine

GR 330 / Bindery - Foil Stamping

The above six courses constitute the Technical Major in Bindery. In courses GR 325, GR 326, GR 327, GR 328 and GR 329 work covers advanced techniques in set-up and trouble shooting. Any two courses constitute a minor option in Bindery. Equipment taught includes 26 x 40 Baum Folder, Smyth #12 Booksewer, Pony 5 Rotobinder, Muller Automatic Stitcher, Seybold Citation Programmable Guillotine and the IMP Model 3/60B semi-automatic foil stamping machine.

GR 350 / Graphic Arts Administrative Processes

Cost estimating and production control techniques are covered in a case study approach with a dummy corporation establishment. This subject prepares a student to enter estimating and production control.

GR 360 / Quality Control

To major in Quality Control during third year, six technical blocks of training time are devoted to special quality control projects in the areas where the student anticipates employment.

GR 502 / Tape-Keyboarding and Tape-Processing

Course content is an expanded form of course GR 202.

GR 504 / Paste-up Assembly

Course content the same as in GR 302.

GR 505 / Photomechanical Reproduction (Black and White Basic)

A basic course covering the operation of process cameras; the calibration of process cameras and darkroom equipment for line, fine-line and an introduction to half-tone negatives. The theory of photographic lenses, light sources, film emulsion and processing solutions is also covered.

GR 506 / Photomechanical Reproduction (Black and White Intermediate)

This course covers the application of coloured filters and the use of panchromatic film; making contacts, duplicates, spreads and chokes; producing fine-line, half-tones, duo-tones and the application of posterization. An introduction to bump exposures and special effects.

GR 507 - Photomechanical Reproduction (Advanced)

An advanced course in half-tone photography and machine processing. Course includes the operation, maintenance and control of film processors, use of reflection and transmission densitometers; the calibration of various types of contact screens to camera and processing conditions; an introduction to colour separation procedures.

GR 508 / Theory of Photo-Typesetting Equipment

Course content is an abbreviated form of course GR 301.

GR 510 / Film Imposition and Printing Surface Preparation (Basic Black and White)

Course description the same as for GR 110

GR 511 / Film Imposition and Printing Surface Preparation

Course description the same as for GR 210.

GR 512 / Film Imposition and Colour Printing Surface Preparation (Process Colour)

Course description the same as for GR 310.

GR 516 / Machine Printing (Offset, Single Colour Presses - Basic)

Course description same as GR 116.

GR 517 / Machine Printing (Offset, Single Colour Presses - Advanced)

Course description same as GR 216.

GR 518 / Machine Printing (Two Colour)

Course description same as GR 217.

GR 530 / Copy Preparation (Hot Metal Composition and Paste Make-up)

This course consists of the hand setting of type from the California job case; operation of commonly found composing room equipment; use of the Ludlow Typograph and covers the display setting of basic general jobbing work. In addition, reproduction of pasted up jobs in camera-ready form.

GR 534 / Process Camera Operation

A basic course covering the operation of process cameras. The calibration of process cameras and darkroom equipment for line, fine-line, half-tones and duo-tone negatives. The application of coloured filters and the making of photographic contacts. The theory of photographic lenses, light sources, film emulsion and processing solutions.

GR 536 / Stripping and Plate Making

A basic course for black and white and line colour stripping. The course introduces job planning and layout of flats containing line, half-tones, line colour and duo-tone negatives; darkroom techniques for making photographic contacts, duplicates, spreads and chokes; the exposing and development of presensitized offset plates is an important part of this course.

GR 538 / Machine Printing (Letterpress)

This course covers safety, good housekeeping, lubrication, paper handling, press familiarization, set-up and adjustments of the feeder and delivery, imposition and register, packing and make-ready, letterpress inks, paper stock, running problems.

GR 540 / Machine Printing (Offset)

In this course the student will learn the fundamentals of offset lithography, feeding, dampening systems, ink control, and the running of single, two colour projects. As the student progresses, he is then introduced to a 4 colour process project.

GR 542 / Binding and Finishing

In this course the trainee will learn to operate various pieces of bindery equipment: paper cutter, paper drill, stitcher, folder, envelope stuffer. He will also finish various types of printed jobs by padding or binding.

HEALTH

HEAL 100 /

A study of current issues pertaining to health and fitness. The ability to research and evaluate current studies will be developed.

HEAL 101 /

Metabolism of carbohydrates, lipids, proteins, hormones and vitamins in humans will be studied. A special emphasis will be placed on diets for certain physiological conditions. Involves energy costs, nutrition and physical performance.

NURSING

H.B.E. 400 / Human Behaviour

The study of human behaviour including group dynamics, and the ethical and legal implications for the nurse.

H.B.E. 401 / Human Behaviour

Study and examination of human behaviour including the ethical and legal implications for the nurse.

HIND 100 / Hotel Orientation

History; scope; organization; problems of, and opportunities in the hospitality industry. Discussions of the organization, the departmental functions, and the operational difference of various types of hotels.

HIND 101 / Food Orientation

History; scope; organization; problems of, and opportunities in, the food service industry. Discussions of the organization, the departmental functions, and the operational differences of various types of food operations.

HIND 102 / Dietary Orientation

History; scope, organization; problems of, and opportunities in, the health care industry. Discussions of the organization, the departmental functions, and the operational differences of various types of health care operations where diet therapy is a factor.

HIND 103 / Food Cost Control

An extensive study of the two aspects of food cost control; the system/records control and the management of employee production. Purchasing, receiving, storage and issuing controls. Further control through portion standardization, forecasting, use of leftovers, standard recipes and production schedules.

HIND 104 / Menu Planning

The history of menus and their current use as food merchandise catalogue. Planning the well-balanced menu. The classical menu and various menu forms in various food service establishments. The limited, specialty, table d'hote, a la carte and cyclical menu planning. Costing and pricing the menu.

This course will deal with the bookkeeping and accounting functions used in general business, starting with the basic structure of accounting through the debit/credit transaction journals, posting, ledgers, trial balance, work sheets, adjustments and closing entries, profit and loss statements and balance sheets.

HIND 106 / Front Office I and II

The organization of the front desk, its importance to the guest and the hotel. A study of the methods, records and routines used in room reservations, guest registration, cash control and guest charges. Practical instruction on all front office equipment, including the key, mail, information and room racks. Front office salesmanship and psychology. Control of "skippers" and all other problem guests through established credit policies. Extensive instruction in night audit procedures, balancing the day's business through the practical use of the N.C.R. 4200.

HIND 108 / Beverage Preparation and Service

Bar layout and equipment, history and manufacture of alcoholic beverages, beverage preparation theory, practical preparation of mixed drinks and cocktails. Pre-opening preparation of the bar. Textensive study of wines of the world with emphasis on selection, tasting, and service.

HIND 109 / Automatic Food Merchandising

The growing importance of vending in today's market. Various types, styles, capacities and advantages/disadvantages of various machines. The importance of machine layout. The special preparation, storage and packaging required of vending foods. Inventory and money flow control.

HIND 200 / Hotel Accounting

The function, responsibility and authority of the accounting department. The "Uniform System of Accounts for Hotels". Control of accounts payable, accounts receivable, payroll, daily cash flow,credit and bad debts. Fixed assets, liability and capital accounts. Budgeting and break-even analysis. Operating statements, their use and evaluation.

HIND 201 / Hotel Housekeeping

The organization, location, function and importance of the housekeeping department. Duties of the housekeeper, inspectress, and maid. Purchase specifications, storage and issue control of linen and other supplies. Cleaning of carpets and walls. The equipment, layout and function of the hotel laundry.

HIND 202 / Banquet Management

Organization and functions of the banquet department within food service operations and hotels. The banquet sales office. Types of banquets, their booking, control, planning, set-up and service procedures. The banquet bar. Table arrangements and table settings.

HIND 203 / Food Facilities Layout

Discussion of significant points in the planning process for new or remodelled food service operations, including creation of image, critical flow patch analysis, technical drawings and detail, blueprint readings, selection of equipment and communicating these ideas in an over-all food facility layout plan presentation.

HIND 204 / Human Relations

Introduction to general psychology: perceptions, emotions, motivations, problem-solving, personality, leadership. Human conflict on the job. Job satisfaction. Supervisory techniques in the hospitality industry. Attitudes of staff towards fellow employees and customers.

HIND 205 / Dining Room Service

Both theory and practice in dining room set-up and organization, table arrangements, purpose and use of various dishes, glassware and cutlery. Reservation control. French, Russian and American table service. Taking the order and "selling" the customer. Gueridon cooking and carving of food at the guest's table.

HIND 206 / Hotel Law

A study of the innkeeper-guest relationship, including the responsibilities of the innkeeper, his duty to provide for the safety of his guests, his liability for loss or damage of guest's property, his right of lien and protection against fraudulent practices. The Ontario Innkeeper's Act, Hotel Registration of Guests Act, Tourism and Information Act, Fire Safety Act and Ontario Liquor License Act.

HIND 207 / Food Law

A study of Canadian Law as it applied to the food service industry, including the proprietor's responsibilities for his guests and employees, his protection from, and liability in, civil suits. The Liquor License Act, the Fire Safety Act and the Public Health Act.

HIND 208 / Work Experience

The student is introduced to the reality of the food service and hospitality industry by spending one complete day per week as an on-the-job trainee in either a hotel or food complex. The student is able to relate his classroom instruction to actual operating procedures. Guidance and evaluation is given to each student as to his performance and suitability.

HIND 209 / Restaurant Accounting

The function, responsibility and authority of the accounting department in a food service establishment. The "Uniform System of Accounts for Restaurants". Control of accounts payable, accounts receivable, payroll, daily cash flow, credit and bad debts. Fixed assets, liability and capital accounts. Budgeting and break-even analysis. Operating statements, their use and evaluation.

HIND 210 / Personnel Management

Responsibility for personnel management, types of organizational structures. Establishing job requirements through job analysis, job description, job specification, job classification and job evaluation. The hiring function, recruiting, interviewing and selection. Job performance appraisal. The Human Rights Code and the Employment Standards Act.

HIND 211 / Payroll Analysis and Control

Controlling labour costs by a system of forms and procedures, job analysis, work and time schedules, work performance ratios, schedules and sales charts, payroll authorization form.

The payroll analysis as a basis for control. The effect of employee morale, absenteeism, turnover and job satisfaction on dollar payroll costs.

HIND 212 / Advertising and Sales Promotion

Analysing the product, competition, market and financing to determine the marketing mix. The advertising budget and agency. The make-up of an advertisement and its media costs. The sales promotion campaigns to promote room sales, group business, tours, food and beverage sales, conventions and conferences. Publicity, good and bad.

HIND 213 / Belcap

BELCAP - Better Environmental Learning through Computer Assisted Procedures - is the name given to a system which enables food and hotel management students to learn by doing, to test the quality of their decision-making in a simulated hotel/restaurant complex via computer. Computer orientation. Use of terminals and access to data files. Simulated experiments, decisions and changing conditions taken from actual hospitality industry statistics enable the student to project anticipated results by use of the computer.

HIND 214 / Hotel Interior Design

Achieving atmosphere through the use of various furniture period styles, colour schemes, window treatment, wall and floor coverings. Construction specifications for furnishings which determine price. Room decorating and furnishing costs. The guest room layout and floor plan.

HIND 215 / Beverage Cost Control

The two approaches to beverage control, records/systems and employee control. The purchasing, receiving, storing, issuing, and portioning of alcoholic beverages. Pricing the beverage menu and calculating beverage cost percentages. The use of mechanical controls and the potential sales value principle. The beverage department profit and loss statement.

HIND 216 / Management Practice

This student is involved at the department head and management level in the operating of either a hotel or food complex, for two days per week. This allows him/her to implement, under supervision, the 1-1/2 years of classroom and laboratory instruction he/she has already received and also gives the student some practice, under supervision, in managing various areas of a business under actual operating conditions. The student works along side of the department head ans is given extensive exposure to the management responsibility.

HOUS 111/112 Housekeeping In Common Areas

Inform residents of proper garbage disposal procedures; maintain program of litter control; maintain hygenic standards through prpper use of materials and methods; maintain a program of positive sign control; e.g. parking, fire lanes, swimming pool; establish and institute program of snow and ice removal; inspect, maintain and control establshed standards; schedule suite cleaning on turn-over; establish techniques and methods of cleaning; establish cleaning standards and routines.

HEATING

HT 104 / Heating

Theory of oil, gas and electric heating systems. Types, properties and characteristics of fuels and other forms of heat energy. Combustion: types, characteristics, principles of heating equipment, and accessories including steam, hot water, forced air and various types of electric systems. Installation codes and practices.

HT 114 / Heating

Flame detection devices, firing systems, firing sequences and programs, logic diagrams, combustion controls: non-programming and programming. Flue gas analysis and boiler efficiency, boilers, valve train assemblies (C.G.A. and C.S.A. requirements), wiring diagrams, multiple hook-up heating.

Firing of commercial oil and gas burners, wiring and control design for systems in the laboratory, flue gas analysis and conducting boiler testing.

INST 100 / Measuring Principles

Theory and construction of mechanical and pneumatic devices for the measurement of pressure, vacuum, temperature, flow of fluids, density, specific gravity, viscosity, etc.

INST 101 / Electronic Instrumentation

Review of fundamentals, electrical pressure, flow level and temperature transducers, indicating and recording potentiometric devices. Radiation and thermoelectricity.

INST 102 / A.C. - D.C. Theory and Lab

Ohm's Law, series and parallel circuits, rheostats and potentiometers, ammeters, voltmeters, ohmmeter, electromagnetism, oscilloscope, generator and motor principles, transformers, reactance, resonance.

INST 103 / Piping and Instrument Lab Techniques

Instruction and shop practice in flaring and bending soft tubing, piping, soft and hard soldering, hand tools, power machine tools. Valves and their installation.

INST 104 / Telemetering

Introduction and history, current, voltage, ratio frequency and impulse methods of telemetering. Multiplex systems, pick-ups, links and channels. Calibration, selection and application of telemetering devices.

INST 106 / Electronics Theory and Lab

Diodes, rectification, filters and doublers, vacuum tubes, zener diodes, SCR's, transistor, FET's, amplifiers.

INST 107 / Electrical Fixed Logic Lab

The study and application of hydraulic, fluidic and electrical circuits as found in typical automated industries.

INST 108 / Instrumentation Fundamentals

Introduction to measurement and control. Pneumatic, mechanical and electrical transducers, Basic theories of automatic control.

INST 109 / Systems Design and Fabrication

The student in consulation with the faculty will design and fabricate a functional instrumentation "system". The project will serve to consolidate the knowledge gained in Semesters I and II. Grading will be based on achievement of a given set of standards.

INST 110 / Instrumentation

Applied electrical and electronic theory, pneumatics and hydraulics. The study and application of devices used in Orthotic-Prosthetics for the testing of anatomical functions and the control equipment related to artificial limbs and braces.

INST 200 / Automatic Control Principles I

Process characteristics, responses of components and systems, energy characteristics, the block diagram, open and closed loops, ratio, cascade, remote-set control loops, development of controller actions, proportional, reset, and rate, tuning a loop.

INST 201 / Final Control Elements

Valve positioners, control valve sizing and their proper application, trim characteristics, seating materials, packing materials, cavitation, flashing, diaphragm materials, split body design, V-ball valves, damper motors, I/P converters, electric and hydraulic valve operators.

INST 202 / Analytical and Environmental Instrumentation

O_2 analysis, combustion, moisture, gas chromatography, ultra-violet and infrared analyzers, spectrometry, pH, conductivity, air and water sampling and analysis, pollution control.

INST 203 / Computer Control Principles I

Fundamentals and application of analog computers, fundamentals and application of digital computers, input-output devices, and data conversion, programming and application to process control.

INST 204 / Applied Solid State Electronics

Power supplies, oscillators, multivi-rators, time control, transistor amplifiers, integrated circuits.

INST 209 / Control Theory and Application

Open and closed loop concepts, lag, capacity, response times, control modes, control systems application and design.

INST 300 / Automatic Control Principles II

An extension and more intensive study of Automatic Control Principles I. Exponential lag, step response and frequency response. Dead time, lag-step and frequency response. Process combination, frequency response method and step response method, controller forms. Process and controller combinations. Elementary system stability, the closed loop and disturbances.

INST 301 / Computer Control Principles II

An extension of Computer Control Principles I. Interfacing A to D, and D to A conversions, exposure to software and programming, pneumatic and analog computers, fluidic logic and control.

INST 302 / Systems Design and Fabrication

A systems research design and fabrication project similar to that of first year (INST 109). This project however, will be of greater depth and complexity. Grading will be based on originality, relevance to industrial applications, functionality and presentation.

INST 305T / Applied Electronics

Semi-conductors and transistors in depth, bias stabilization, load lines, coupling, amplification including push-pull amplifiers. Oscillators, timing circuits and multivibrators, strain gauges and their application, photoelectric control and thermistor applications.

INST 303 / Research Seminar

Informal group discussion of topics which fall within the Instrumentation and Control spectrum.

FOOD TECHNOLOGY

INV 111 / Purchasing and Inventory Control

Establish need; maintain adequate purchase order system; maintain secure stock-room; develop and maintain adequate stock control - maximum and minumum; establish usage records for comparative purposes; evaluate and compare types of competitive products; negotiate service and supplies contracts.

INSR 111/112 / Insurance

Appreciate necessity for non-committal; prepare and post disclaimer signs; handle claims; maintain claim records; report bodily injury claims on prescribed forms; advise to residents on protection of personal assets and public liability; review insurance coverage annually; advise on loss of income insurance; advise on current coverage available; recognize potential liability situations; evaluate and recommend best insurance coverage available.

JEWELLERY

JWL 136 / Workshop

General Workshop for repair specialist students.

JWL 146 / Workshop

General Workshop for repair specialist students cont'd.

JWL 160 / Introduction to Jewellery Making

Planishing; hard soldering; finishing and polishing of precious metals; elementary jewellery repairs; cuttlefish casting; centrifugal casting; models for production methods, etc.

JWL 161 / Goldsmithing

Follows JWL 160 to work in gold.

JWL 162 / Gem-Setting

Follows JWL 160 to work in gem-setting.

JWL 163 / Engraving

Follows JWL 160 and DES 169 to work in engraving.

JWL 164 / Silversmithing

Follows JWL 160 to work in silver.

JWL 165 / Theory

Related to JWL 161-2-3 or 164, as the case may be.

JWL 171 / Goldsmith

Continuation of JWL 161

JWL 172 / Gem-Setting

Continuation of JWL 162

JWL 173 / Engraving

Continuation of JWL 163

JWL 174 / Silversmith

Continuation of JWL 164

JWL 175 / Theory

Related to JWL 171-2-3 or 174, as the case may be.

JWL 260 / Jewellery Making

Advanced segment.

JWL 261 / Goldsmithing

Advanced; Semester III.

JWL 262 / Gem-Setting

Advanced

JWL 263 / Engraving

Advanced.

JWL 264 / Silversmithing

Advanced.

JWL 265 / Theory

Related to JWL 261-2-3 or 264, as the case may be.

JWL 271 / Goldsmithing

Advanced Segment 2 - Semester IV

JWL 272 / Gem-Setting

Advanced Segment 2 - Semester IV

JWL 273 / Engraving

Advanced Segment 2 - Semester IV

JWL 274 / Silversmithing

Advanced Segment 2 - Semester IV

JWL 275 / Theory

Continuation of JWL 265

JWL 361 / Goldsmithing

For experienced goldsmiths only

JWL 362 / Gem-Setting

For experienced gem-setters only.

JWL 363 / Engraving

Intricate and sophisticated patterns for experienced engravers.

JWL 364 / Silversmithing

For experienced silversmiths only.

JWL 365 / Theory

Related to JWL 361, 362, 363 or 364, as the case may be.

JWL 366 / Jewellery Repairs

Advanced Specialty.

JWL 371 / Goldsmithing

Continuation of JWL 361.

JWL 372 / Gem-Setting

Continuation of JWL 362.

JWL 373 / Engraving

Continuation of JWL 363.

JWL 374 / Silversmithing

Continuation of JWL 364.

JWL 375 / Theory

Continuation of JWL 365.

JWL 376 / Jewellery Repairs

Theory.

LAW

LAW 105 / Secretarial Science Related

A summary of our laws of contract, employment, agency, sales of goods, insurance, bailments, real estate, negotiable instruments, partnerships, corporation, bankruptcy, trade marks, business crimes, and torts.

LAW 111/112/211/212 / Law

Interpret and apply Condominium Act and documents; interpret and apply Landlord and Tenant Act pertaining to residential housing; must be able to comply with Health Standards Act; interpret and apply pertinent sections of municipal, provincial and federal legislation; recognize when to acquire legal help; qualify legality of tenancy agreements; administer covenants of tenancy agreement; institute recourse in event of breach of covenant.

LAW 200/201

This two semester commercial law course is designed primarily for accounting majors who are planning on enrolling in one of the professional accounting associations (RIA or CGA). However, other students will find one or two semesters of this course useful in their business careers.

Topics covered include corporation law, real property law, tax legislation, contracts, labour law, and consumer legislation.

LAW 202 / Procedural Law (Legal Secretary Related)

Practice and procedure before the various courts in Ontario. Rules of court and pleadings. Rules of evidence. Court officials and procedures in court offices and registeries and in other registeries. The role of the lawyer with respect to the courts, to other lawyers, and to the clients.

LAW 203 / Case Preparation (Legal Secretary Related)

The preparation of a civil or a criminal case for trial. The law library, legal authority and the analysis of reported cases in such fields as contract, tort and agency. The preparation of legal argument. Office practice in such matters as family law, real estate, and briefs before boards and other tribunals.

MACH 110 / Workshop Technology

Measuring tools and benchwork. Theory and operation of the following machines: drill press, bandsaw, lathe, vertical and horizontal mills, surface and cylindrical grinders. Practical heat treat operations, practical projects involve the construction of tools, jigs, fixtures and machines.

MACH 120 / Toolmaking

Layout procedures, fitting, fastener application, part planning, jig and fixture parts. Milling, welding, grinding and assembly fixtures, drill jigs. Gauges: plug and ring gauges, gap gauges, special gauges. Basic diemaking: die parts and functions, types of press tools, die clearance.

MACH 126 / Non-Traditional Machining

Basic numerical control, electrical discharge machining (E.D.M.) and chipless machining processes.

MACH 127 / Hydraulics and Pneumatics

Systems, valves, pumps, theoretical and practical applications.

MACH 137 / Small Tools and Measurement

The use and care of hand tools such as files, wrenches and screw pitch gauges. The application and care of precision instruments including micrometers, vernier calipers, gauge blocks, plug and ring gauges and dial indicators.

MACH 138 / Lathe and Ancillary Equipment

Centre, tracer and turret lathe operation and theory including set-ups, tools, speeds and feeds, and lubricants.

MACH 150 / Toolmaking

Jig and Fixture Making, emphasis on assembly methods, jig boring, set up and operation. Angular milling, gauge and template making, honing, lapping, form grinding and cutter grinding, basic numerical control.

MACH 155 / Mouldmaking

Construction, theory of operation and manufacture of moulds. The use of Electro Discharge Machines, copying machines, Numerical Control machines, as well as standard machines. Benching tools used in the application of finishing and polishing.

Type of Moulds - Plastic (compression and injection), Die casting and rubber.

Emphasis will be placed on all areas of plastic injection and die casting moulds. Extrusion, forging, casting (sand, permanent and lose wax).

MACH 204 / Diemaking I

Punch press theory and operation, press brake theory and operation. Theory development , construction and operation bending, blank, forming, compound, progressive, draw, shaving, lancing, coining and embossing. Cold forming, bulging, swaging, broaching, assembly, sub-press, extruding, curling, side cam, horn. Moulds - Types, construction, operation and manufacture.

MACH 207 / Workshop Technology

Theory and design involved in the practical construction of one of the following types of dies - pierce, blank, cut-off-trim, bending, forming and draw. Punch press, set-up and operation, punch press accessories.

MACH 251 / Diemaking

Engraving and three dimensional milling. Electrical discharge machining. Die theory - types of dies, construction and operation, basic mould theory.

MACH 352 / Metal Cutting Techniques

Standard machining such as jig boring with optics and end measuring, turret and tracer lathe. Tool presetting, rotary table, indexing and sine set-ups. Emphasis on cutting with carbides, utilizing maximum H.P: Electrical Discharge Machining. Automated machines and processes.

MACH 360 / Machine Shop

Tool proving and tryout (gauges, jigs, fixtures and punch press dies). Experiments with cutting tools (rakes and clearances for various types of materials).

Die experiments with various types of clearance and part edge development, Bending development. Spot welding - projects will be assigned to suit the interest of the student.

MAIN 111/112 / Maintenance

Read architectural floor plans and identify pertinent terms and symbols; identify major mechanical and electrical services and locations ; demonstrate knowledge of operating principles of major services, water shut-off, breaker panels, circulation pumps, sewer cleanouts, fire lines; maintain a program of sidewalks, driveways and parking areas repair and maintenance; maintain program of exterior building maintenance; evaluate requests for maintenance service; identify emergencies within company policy; recognize minor malfunctions of domestic appliances; establish control procedures for corrective maintenance; institute a maintenance program for outdoor areas, fences, fountains, patios, etc.; maintain record of warrantees; establish and maintain suite maintenance records; establish and maintain building maintenance records; establish and maintain a program of soil, plant and lawn care; schedule suite renovations (occupied suites); establish follow-up procedures on corrective maintenance; establish charge-back system for residents' abuse; schedule suite maintenance on turnover; establish control procedures for preventative maintenance; schedule and implement preventative maintenance programs; administer service contracts common to industry; and establish approved list of contractors emergency service.

MARK 100 / Introduction to Marketing

An orientation course in modern marketing philosophy and functions. Topics include consumer and industrial market segmentation (identification, needs, market size, trends); interrelationships between customer, company goals, invariable factors and the marketing mix (product, price, distribution and promotion); and marketing research.

MARK 101 / The Sales Aspects of Marketing

Your ability to make a personal presentation of yourself, of your ideas, and of your product or service is a valuable aid in all your business contacts.

This ability is enhanced through and understanding of sales planning and sales techniques. Course content includes sales planning and techniques; sales force management and development; recruting and training. Case studies and videotape assist in developing these skills.

MARK 102 / Advertising and Sales Promotion

Designed to relate advertising and sales promotional techniques to the marketing environment. Includes target market definition; attitudes, opinions and beliefs; product analysis; analysis of communications, media and sales promotion leading to written objectives, strategies and media execution; socio-economic aspects; the organizations of advertising.

MARK 111/112 / Marketing

Familiarize self with competitive situation; develop techniques of showing suite; complete standard documentation; greet customers; qualify the prospect; develop closing techniques; develop and implement program of pre-occupancy information; develop welcome package; determine reasons for non-renewal of lease; develop program for lease renewal; develop referral incentive program; evaluate impact of advertising campaigns; develop resident questionnaires to determine effectiveness of programs; segregate market; initiate development of brochures; prepare appropriate site signs; plan and implement flexible advertising program; prepare suitable copy and layout; evaluate and select media; develop effective news letters for residents; develop techniques of decorating display suites; awareness of publicity opportunities; participate in community affairs; advise on design and development of future projects.

MARK 200 / Product Planning and Pricing Policy

A study of the strategies leading to new product marketing decisions including product planning and development, product strategies, as well as branding packaging and labelling.

It also includes customer and company considerations in determining product pricing for greater profits.

MARK 201 / Distribution Channels

An examination of distribution channel structure; the problems, objectives, operations, outlook, policies and function of various wholesale and retail organizations; channel conflict; channel selection for the manufacturer. Text, cases, project.

MARK 202 / Marketing Research and Information Systems

Designed for the user of information rather than for the technical research specialist, the course emphasizes the definition of decision-oriented information needs and the interpretation of information results. Sampling and measurement techniques are studied. Text, cases, project.

MARK 205 / Marketing Management

This course, with MARK 206, interrelates elements of the marketing mix that were studied separately in previous semesters, by comparing various strategies, their underlying causes, and relating these to company objectives. MARK 205 pays particular attention to product and price. Text, cases, computer simulation, project.

MARK 206 / Marketing Management II

This course provides an intensive survey of management decisions related to marketing planning and strategy, buyer behaviour, distribution and promotional strategies. The study of realistic company cases will provide the student with a deeper understanding of business problems in these areas.

MARK 207 / Marketing Management III

An interrelated and financial overview of the Marketing Management function. Emphasis is on the analysis and application of quantitative factors affecting marketing productivity.

MATHEMATICS

MATH 100 / Mathematics

Semester I - Metric and English measurement, linear equations, quadratic equations, logarithms, trigonometry.

Semester II - Trigonometry: oblique triangle, compounded and multiple angles, sum and product of angles, triangles, circles, functional concepts and notations, introduction to series, analytical geometry, differential calculus.

MATH 100T / Mathematics

Trigonometry: functions of any angle, compounded and multiple angles, sum and product formula for angles, radian measure and properties of a circle, properties of trigonometric functions, logarithms and logarithmic equations, variation, progressions introduction to analytical geometry, introduction to differential calculus.

MATH 101 / Mathematics

Review of basic algebra; significant figures; standard notation; slide rule, graphs; linear equations; ratio and proportion; quadratic equations, simultaneous equations; topology of elementary networks; radian measure; trigonometry.

MATH 102T / Technical Mathematics (Electronic Technology Related)

Review algebra; functions and graphs; factoring and fractions; quaratic and equations; binomial theorem; solution to linear equations and systems of equations; review of trigonometric functions; J-operator; vectors and triangles.

MATH 104 / Mathematics

Computation methods; basic algebra; linear equations; trigonometry; oblique triangles; vectors; functions and graphs; simultaneous equations; algebraic factoring; quadratic equations; exponents and radicals; logarithms.

MATH 105 / Technical Mathematics (Graphic Arts related)

Slide rule, calculators; practical measurements; practical geometry; ratio and proportions; graphs and nomograms; point system; arithmetic for the printing trades.

MATH 107 / Business Math (Two Semesters)

Percentage, order of operations, equations, rearranging formulas, simple interest trade discounts, commissions, life, property and car insurance.

Profit, loss statements, municipal revenue, home ownership, payrolls, income tax.

MATH 108 / Mathematics

Computation methods using calculators; basic algebra; linear equations; simultaneous equations; algebraic factoring; quadratic equations; functions and graphs; exponents and radicals; logarithms; metric system of weights, measures, other units and their equivalents; introduction to computer programmes.

MATH 110 / Mathematics

Basic arithmetic processes, interest, trade discounts, food costs, weights and measures, metric system, ratio and proportion, graphs, recipe quantities, portion costs and selling price calculation, calculating portion sizes and amounts to purchase.

MATH 113 / Business Mathematics

Semester I - Discounts: markups, margin, markdowns. Interest: present value, discounting negotiable instruments, partial payments. Installment purchases: true interest rate on installment purchases. Methods of computation.

MATH 114 / Business Mathematics

Fundamental algebraic operations, geometric sequences, logarithms, graphs, interest.

MATH 115 Business Mathematics

Annuities, amortization and sinking funds, bonds, depreciation.

MATH 118 / Statistics for Health and Fitness

An introduction to statistics; organization and presentation of data measure of central tendency; dispersion; frequency distribution; sampling; confidence limits; hypothesis testing; regression analysis; experimental design. Use of computer programs for statistical analysis of data.

MATH 120 / Applied Computer Programming

Introduction to time sharing; algorithms; elements of basic programming; printing statements; functions and sub-routines; basic statements and rules.

MATH 133 / Mathematics

Basic arithmetic; square root; simple interest; loans, financing; measuration; ration and proportion; applied geometry; fundamental algebra.

MATH 136 / Mathematics

Semester I - Basic arithmetic; mensuration; ratio and proportion; fundamental algebra.

Semester II - Geometric figures; fundamental geometric construction; trigonometry; sine and cosine laws; oblique triangles, logarithms, shop calculations.

MATH 143 / Mathematics

Semester I - Number systems; whole numbers, common fractions, decimal fractions; per cent, units of measure.

Semester II - Operations with decimals and fractions, measurement; linear; square; cubic; basic geometry; percent simple interest.

MATH 147 / Mathematics

Semester II - Quadratic function, trigonometry; A combination of topics selected from the following options: series, geometry, statistics, computer principles, analytic geometry.

MATH 150 / Mathematics

Basic arithmetic; ratio and proportion and applications; fundamental algebraic operations. Indices and exponents; slide rule; standard notation; logarithms; practical geometry; weights and measures; graphs - straight line law; algebra - linear and quadratic equations; trigonometry and applications.

MATH 163 / Core Mathematics (Business Related)

Whole numbers; common fractions; decimal fractions; percent; invoices and extensions.

MATH 175 / Shop Mathematics

Metric conversion. Application of arithmetic, algebra, geometry and trigonometry, applicable to toolmaking problems.

MATH 200 / Mathematics

Semester I - Analytical geometry, differential calculus, differentiation, practical applications.

Semester II - Integration, the definite integral: areas under curves, volumes. Introduction to differential equations. Practical applications.

MATH 200T / Mathematics

Semester I - Cartesian co-ordinates, line segments inclination, parallel perpendicular lines, straight line distance from a line to a point, circle parabola ellipse, hyperbola tangents to curves, translation of axis second degree equations, polar co-ordinates, polar equations inequalities, linear programming.

Semester II - Limits, slope of a tangent derivative, increasing and decreasing functions, derivative of a polynomial, derivative of a product and quotient; chain rule, implicit functions, derivatives with respect to time, maximum and minimum, the differential indefinite integral, constant of integration, definite integral, trapezoidal rule for approximate areas, area under a curve, successive integration, volume of integration, centroids, moments of inertia, differential equations.

MATH 200T / Mathematics (Instrumentation Technology Related)

Introduction to differential and integral calculus. Applications to related rates; maxima and minima; areas and volumes. Introduction to probability and statistics. Basic concepts of Boolean algebra. Introduction to time sharing; basic programming and problem solving by computer.

MATH 201 / Mathematics (Electronics Related)

Review of algebra; functions and graphs; factoring and fractions; quadratic and higher degree equations; binomial theorem; solutions to linear equations and systems of equations; review of trigonometric functions; J-operator; vectors and triangles.

MATH 201T / Mathematics

Equations of higher degree; progressions, series and binomial theorem; plane analytic geometry; polar co-ordinates and graphs; limits; slope of tangents; derivative; introduction to differentiation.

MATH 202 / Mathematics (Electronics Related)

Trigonometric functions of combined angles; properties and graphs of trigonometric functions; plane analytic geometry; polar coordinates and graphs; limits; slope of tangents; derivative; introduction to differentiation and integration.

MATH 202T / Mathematics (Electronic Technology Related)

Properties of trigonometric functions and inverse trigonometric functions; derivatives of polynomials, products, quotients, and powers of functions; tangents and normals; related rates; application to wave analysis; maximum and minimum values; higher derivatives; derivatives of trigonometric and inverse trigonometric functions; derivatives of logarithmic and exponential functions; hyperbolic functions and identities; inverse hyperbolic functions; differentiation of hyperbolic and inverse hyperbolic functions; introduction to integration.

MATH 205 / Mathematics (Graphic Arts Related)

Fundamental algebra; fundamental trigonometry; simple and compound interest; basic bookkeeping; profit and loss sheets; cheques, cash records, and statements; taxation; purchasing; financing; estimating.

MATH 214 / Statistics I

The elements of statistics as applied to business. Treatment of numerical data: graphical representation, the analytic method. Frequency distributions, measures of central tendency and spread.

MATH 215 / Statistics II

Elementary probability theory. Introduction to time series and forecasting. Index numbers and their application.

MATH 275 / Shop Mathematics

Extension of toolmaking shop mathematics to more complicated shop problems, including die calculations. Force, work, power, velocity, torque, horsepower and mechanical efficiency of machines.

MATH 300 / Mathematics (Electrical Technology Related)

Differential calculus: functional notation, gradients, limiting value, differentiation from first principles, maxima and minima, differentiation of products and quotients of trigonometric functions with application to angular velocity and acceleration, simple harmonic motion, and electrical problems; integral calculus: relationship between differentiation and integration, the definite integral. Application of calculus to problems encountered in related technology.

MATH 300 / Mathematics (Instrumentation Technology Related)

Advanced applications of the calculus; introduction to differential equations. A survey of statistical concepts applied to decision making. Boolean algebra applied to switching theory. Computer problem solving projects applied to the technology.

MATH 300T / Mathematics (Statistics)

Elements of statistics. Variables. Variables and graphs, frequency distribution, measurements of central tendency, standard deviation and other measures of dispersion, moments, skewness and normal curve, elementary probability theory, chi-square test, curve fitting and method of least squares. Analysis of measurement, nature of samples, sampling distribution, making estimates from samples. Application to survey data.

MATH 301T / Mathematics (Survey Related)

Explanation of matrices and their arithmetic operations, systems of linear equations, matrix multiplication, equivalent and inverse matrices, non-singular matrices, determinants; expansion of a determinant, products of a determinant, computer application to least squares adjustments (chi-squares), data storage and automatic plotting of survey data using matrices.

MATH 301T / Mathematics (Electronic Technology Related)

Indefinite integral; power rule; movement of constants and transforms; definite integral; change of limits; area under curves; general power formula; basic logarithmic form; exponential form; basic trigonometric form; hyperbolic form; inverse hyperbolic form; standard form tables for integration; integration by parts; by change of independent variable, by partial fractions; by successive reduction, by substitution, by practical methods, functions of more than one variable; derivative of a function of more than one variable; total differentiation of a function; multiple integrals; MacLaurin series; Taylor's series; operations with series; computations by expansions; L'Hospital's Rule; Cauchy's integral test; alternating series; power series.

MATH 305 / Analytical Geometry

Basic concepts, co-ordinate systems, lines and related topics. The plane, the cycle sphere, cylinder and cone. The ellipse, ellipsoid, the parabola and paraboloid. The hyperbola and the hyperboloid. The general equation of the second degree. Graphs.

MATH 316 / Elementary Statistics

An introduction to statistics: organization and presentation of data measures of central tendency; dispersion; frequency distribution; sampling; confidence limits; hypothesis testing; regression analysis; experimental design.

MATH 365 / Shop Mathematics

Vector force diagrams, calculations for balancing loads. Development of the involute curve. Compound angles. Limits and tolerances. Estimating cutting times. Various die calculations.

MATH 375 / Shop Mathematics

MATH 375 / Shop Mathematics

(Mouldmaking), compound angles, shrinkage calculations, draft angle calculations. Trigonometry, geometry and algebra problems.

MATH 400 / Mathematics

Differentiation of exponential and logarithmic functions with applications related to Electrical problems; standard methods of integration, such as substitution, trigonometric identities, partial fractions and integration by parts; radius of curvature, lengths of curves; expansion series; Taylor's and MacLaurin's Theorem; differential equations; simple differentiation equations of the first and second order: use of complex numbers in electrical or electronic technology.

MATH 511/521/535 / Mathematics

Semester I - Number systems; wholes numbers, common fractions, decimal fractions; per cent, units of measure.

Semester II - Operations with decimals and fractions, measurement; linear; square; cubic; basic geometry; percent simple interest.

MATH 532 / Mathematics

Arithmetic processes: fractions, decimals, square roots, applied geometry, properties of the right triangle; Pythagoras' theorem, the circle, area and circumference, sectors and segments. Volumetric measure; weights and measures, capacity of tanks and piping, calculation of rates of flow. Algebra: fundamental operation, equations, linear, simultaneous, quadratic, formula manipulation, evaluation, indices, powers of ten, standard numbers, slide rule operations. Logarithms: fundamental operations, calculations involving trade formula.

MATH 534 / Mathematics

Mathematics for Furniture Design.

MATH 540 / Arithmetic

Addition, subtraction, division, and multiplication of whole numbers.

MATH 542 / Mathematics

Study of whole numbers, fractions, decimals, percent and the metric system.

MATH 546 / Mathematics

Review of fractions, decimals and percent; powers, square root; metric system; simple areas, perimeters, volumes; basic algebraic equations; multiplication and division of monomials and binomials; linear equations and graphical solutions; geometry; trigonometric ratios and mensuration.

MATH 547 / Mathematics

Linear equations, exponents, logarithms, slide rule, ratios, quadratic surds, pleane trigonometry, analytical geometry to second degree equations.

MATH 548 /

Business graphs, averages, credit, discount, insurance, payrolls, investments, taxes.

MECHANICS

MECH 100 / Mechanics

Semester I - Statics: concurrent co-planer force systems, resultant forces, equilibrium forces, structural forces, centres of gravity and centroids, moments of inertia. Work, energy, and power.

MECH 100 / Mechanics (cont'd)

Semester II - Machines: velocity, acceleration, displacement, laws of motion, Galileo's equations, inertia force, angular motion, work, energy, power, impact.

MECH 102 / Mechanics

Concurrent and non-current complanar forces; force systems; moments; equilibrium; friction; work, energy, power; machines; velocity; acceleration; angular displacement, centripetal acceleration; centripetal forces, conservation of momentum.

MECH 103 / Mechanics and Mechanisms

Techniques and mechanism analysis; graphical analysis of motion; friction, lubrication, and bearings; pulleys, gears, and geartrains; cams, clutches, linkages, governors and speed controls; basic design of mechanisms.

MECH 103T / Mechanics and Mechanisms

Techniques and mechanism analysis; graphical analysis of motion; friction, lubrication and bearings; pulleys, gears and gear-trains; cams, clutches, linkages, governors and speed controls; basic design of mechanisms. Design and application of mechanisms to specific situations.

MECH 110 / Mechanics of Materials

Semester I - Statics review: forces in structures, stress and deformation, stress and strain. Yong's modulus of elasticity. Riveted and welded joints, torsion.

Semester II - Centroids, moment of inertia. Beams, stresses in beams, deflection of simple beams, thick and think wall cylinders, combined stresses. Point and distributed loadings, columns.

MECH 114 / Strength of Materials

Review of basic principles; properties of materials; stress, strain and deformation; centroids, moments of inertia; centroids, moments of inertia; bending moments; torsion, combined stresses.

MECH 115 / Mechanics of Fluids

Semester I - Properties of fluids: capillarity, viscosity, surface tension, etc. Hydrostatic force and pressure. Centre of pressure. Buoyancy and floatation.

Semester II - Fundamentals of fluid flow - Benouilli's theorem, continuity, orifices, nozzles and weirs. Fluid flow in pipes - Moody chart. Fundamental principles of hydrodynamics. Pumps: types and characteristics. Dimensional analysis.

MECH 202 / Machines and Mechanisms

Techniques of Mechanism Analysis; Graphic Analysis of Motions; Friction and Lubrication; Levers, Pulleys, Gears and Gear Trains, Couplings, Bearings, Clutches, Cams, Linkages, Governors, and Speed Controls; Basic design of Mechanisms.

MECH 210 / Mechanics of Materials

Semester I - Shear forces, binding moments in beams, cantilevers and continuous beams, reinforced concrete design, structural steel design use of tables.

Semester II - Selection of sections beams, stanchions, columns, plate girders, riveted, bolted and welded connections, steel roof truss design, joint details.

MECH 302T / Mechanisms and Materials (Electronic Technology Related)

Properties of materials; stress, strain, and elastic constants; moments of inertia; bending moments; torsion; beam stresses and deflection; Euler strut; column and strut stability; fatigue and fatigue testing; analysis of mechanisms, vibration analysis.

MECH 312T / Mechanics of Materials (Electronic Technology Related)

Properties of Materials; Stress, strain, and elastic constants; moments of inertia; bending moments, torsion; beam stresses and deflection; euler strut; column and strut stability; fatigue and fatigue testing; analysis of mechanism; vibration analysis.

MEDICAL TECHNOLOGY (ORTHOTICS-PROSTHETICS)

MED 100 / Introductory Anatomy and Biomechanics

Functional anatomy of the human body including skeletal structure (osteology), muscle systems (myology), blood circulation system (angiology), nervous system (neurology) and functions of digestion, respiration and excretion. Basic anthropometric data, physical properties of tissues, analysis of forces acting on the skeletal structures and torques developed around body joints.

MED 200 / Intermediate Anatomy

The functional anatomy of the human body including study of the anatomical joints in relation to orthotic-prosthetic hardware. Pathological studies of the skeletal structures including indications for amputation.

MED 201 / Introductory Physiology

Skin disorders and cell structure. Blood, its composition and functions. The functional muscular system, circulators and respiratory.

MED 202 / Introductory Pathology

Diseases of the body including degenerative erosion of the joints. Methods of treatment in relation to external and internal prostheses. Cardiovascular system.

MED 300 / Advanced Anatomy and Kinesiology

Prosthetic/orthotic design in relationship with body conformation, skeletal and musculature contours. Maintenance of high standard of fitting practices in static and dynamic alignment. Electrical diagnosis, check-out, and finalization of prosthetic/orthotic components.

MED 301 / Physiology

Systems of the body co-related with other courses. The effects of amputation on nervous, arterial, velnous, circulatory and respiratory systems. Surgical techniques. Atrophy and hypertrophy.

MED 302 / Pathology

Bone and cellular structure, weight bearing areas. Diseases and their effects. Pain, symptoms, causes and indications for surgery. Blood supply, protein, living and dead cellular structures, skin.

METALLURGY

MET 100 / Metallurgy

Atomic theory of metals: metallic states, grain formation and growth, metal deformation, mechanical properties, heat treatment of metals. Iron-carbon equilibrium diagram. Types, properties and uses of cast iron, steel and non-ferrous. Aluminum, nickel, copper, magnesium lead and its alloys.

MET 130 / Metallurgy I

An introduction to the base metals commonly used in the watchmaking and jewellery trades. A more complete coverage in the precious or "noble" metals, namely the mining, refining, and preparation from the raw ores to the finished metals as used by the craftsmen.

An introduction to the acids and liquids commonly used in cleaning, soldering, etc., in each of these affiliated trades.

MET 166 / Metallurgy

A special module covering the metallurgy of precious metals used in Jewellery manufacturing - Basic.

MET 176 / Metallurgy

Continued.

MET 266 / Metallurgy

Advanced. Semester III and IV and Mature Students in Semesters V and VI.

MET 200 / Metallurgy

A comprehensive study of the metals and alloys used by the dental technician. A study is made of the metallurgical principles involved in structures and states of metals and metallic compounds, with emphasis on gold and its alloys, silver, platinum and copper. A study is also made of base metal alloys.

MET 276 / Metallurgy

Continuation of MET. 266.

MET 375 / Practical Metallurgy for Mouldmaking

The selection and various heat treatments for tool steels and non-ferrous alloys suitable for the construction of moulds and dies which are to be used in the forming of plastic, rubber, ceramics, glass, and metals. The recognition and solution of basic metallurgical problems, which may be caused by abrasion, corrosion, erosion, heat checking, heat conduction, high temperature hardness and strength.

Properties of alloys which may be case, forged or extruded. Theory of polishing and electro-plating. Introduction to non-destructive testing.

NUMERICAL CONTROL

NC 126 / Numerical Control

Numerical control, definitions, history of machine tools, advantages and application of NC axis, absolute and incremental systems, point to point and continuous path systems, programming, tooling, tape preparation, binary systems, machine set-ups. Practical applications of two axis machining.

NC 208 / Numerical Control

Review basic programming procedures. Computer assisted programming using "ADAPT" language and XLO post-processor. Lathe programming word address, absolute system, practical assignments.

NC 300 / Numerical Control - Part I

N/C theory - systems, dimensioning; controls, programming, for point to point systems - milling, drilling reaming, tapping and boring. Programming for continuous path systems. Set-up and operation of an "XLO" milling machine and a Pratt & Whitney starturn lathe.

NC 310 / Numerical Control Part II

Basic fundamentals of computer assistance for part programming using the "Adapt" language with time sharing terminals.

NC 320 / Numerical Control Part III

Advanced Numerical Control - using all systems and equipment. Planning, programming, tape preparation, tape editing, tape tryout and proving on N/C machines.

NUTRITION

NUT 100 / Nutrition

Nutritional needs for good health. The "Canada Food Rules". Composition of foods and functions of the five groups of nutrients; vitamins, minerals, proteins, fats, and carbohydrates. The function of roughage and water; digestion and metabolism. Modified diets to treat various conditions, variations in caloric content, in texture and consistency, and in nutrient composition.

NUT 200 / Therapeutic Nutrition

Assessment of nutritional needs with special focus on the patient and his perspective. Nutritional analysis and plan of care with the problem-solving approach. Process recording as a means of evaluating the interaction with a patient. Applied nutrition: clinical case studies.

ORGANIZATION AND MANAGEMENT

O.M. 400 / Organization and Management Concepts

Includes the study of the co-ordination of a Critical Care Unit and a Professional Development Seminar.

O.M. 401 / Organization and Management Concepts

Includes the study of communication techniques and a seminar or professional development.

OFFICE PRACTICE

OP 100 / Typewriting

To develop speed and accuracy with emphasis on proper touch typing techniques; introduction to basic centering, tabulation, business letter styles and preparation of manuscripts and proof reading.

OP 101 / Typewriting and Office Practice

To further develop speed and accuracy on electric typewriters and, in addition, to complete more advanced theory projects.

OP 110 / Dental Office Practice

Additional to the further development of typing skills, emphasis will be placed on the basic skill of bookkeeping as it relates to the dentist office. Other areas covered are reception duties, filing, grooming, etc.

OP 114 / Office Practice

The first semester will be devoted to developing the student's skill in the manipulation of the typewriter. In the second semester, the student will concentrate in familiarizing herself with the business office aspects of a dental practice and her duties and responsibilities therein. In so doing, she will be required to apply the typewriting theory mastered in the first semester. Instruction covers bookkeeping, correspondence, banking, appointment planning, credit and collection, patient records and accounts.

OP 200/201 / Office Practice

In addition to further skill development, to familiarize the student with the role of the secretary in business organizations and her duties, including communications, filing, banking and finance, meetings and conferences, travel arrangements, etc.

OP 202/203 / Legal Office Practice

Additional to further development of typing skills, emphasis will be placed on the preparation of legal instruments involving court documents, real estate, divorce papers and partnerships and corporations, as well as receptionist, accounting and secretarial duties involved in running a legal office.

OP 204/205 / Medical Office Practice

To further develop typing skills with emphasis on handling the daily routine of a doctor's office including appointments, correspondence, patient files and medical forms, OHIP and Workman's Compensation forms, and the assignments involved when part of a hospital dicta typing pool.

PATTERN MAKING

PAT 140 / Apparel Drafting I

Use of patterns and designs as a management tool.

PAT 141/541 / Apparel Pattern I

Elementary pattern design (women's and children's wear). A systematic method of pattern cutting by drafting directly "on the flat" (i.e. on paper). (1) Drafting the basic foundation pattern in manufacturing sizes to a "price line". (2) Fit and alter patterns. (3) Basic principles of styling; design sketches.

PAT 142/542 / Apparel Design I

Styling, line, proportion. Research, colour, co-ordinating colour and texture.

PAT 143 / Apparel Pattern Drafting II

Intermediate pattern design (women's and children's wear) embellishing PAT 141 with PAT 142 and successive stages.

PAT 144/544 / Fashion Illustration I

Elementary course in Fashion Art - drawing figures and clothing (still and from life) to show fashion, style design, fabric texture, in preparation for apparel pattern drafting or advertising layouts.

PAT 151/551 / Apparel Pattern Drafting III

Sequel to PAT 141 and 143 - designing a garment from sketch or original idea and drafting pattern for commercial use - includes creative styling of coats, suits, sportswear, dresswear; advanced styling.

PAT 152/552 / Apparel Design II

Styling, research, textiles, copies, size grading up and down.

PAT 153/553 / Apparel Pattern Drafting IV

Advanced design, colour, texture, draping - integrating all areas of apparel design and pattern drafting to bring out fashion creativity in projects.

PAT 154 / Fashion Illustration II

Commercial applications in fashion art - creative sketching, line, colour, concepts (fashion).

PAT 241 / Advanced Pattern Drafting V

To include style changes and variations of original design; formal wear; theatre/T.V. design introduction.

PAT 242 / Commercial Pattern Marker

Duplicator; miniature markers; optimum use of fabric; introduction to computer pattern grading and markers.

PAT 243 / Fashion Research

Tracing trends - co-ordination of colour and fabric with design - textures - attitudes.

PAT 244 / Fashion Illustration III

Specialising in use of Fashion Illustration in the media - commercials - ads - display cards - backdrops.

PAT 245 / The Advanced Application of the Design Function for Theatre Arts Costuming

Historical eras of dress.

PAT 251 / Advanced Pattern Drafting VI

Grading techniques; computer pattern grading principles; plotting co-ordinates; grading rules for programming.

PAT 252 / Apparel Design III

Advanced principles of line form and design as applied to the covering of the human figure; draping; European techniques of creating fashions.

PAT 253 / Apparel Product Design IV

Technology and manufacturing factors affecting economics of relationship between creative designs and competitive production of these styles; price lines and influence on design.

PAT 254 / Fashion Illustration IV

Continuation of applications in the media.

PAT 262 / Apparel Design IV

Continuation of PAT 252, especially creating using draping.

PAT 341 / Apparel Pattern Drafting VII

Designing and producing a line - projects and practice designed to develop knack of predicting style change and consumer demand; adjustments needed in design room and on plant floor before showroom display and sales.

PERS 111/112 / Personnel Management

Establish and maintain employee records; establish work load schedules; establish staff meetings within company policy; establish and implement staff training programs using available resources; determine required qualifications of staff; allocate duties; supervise, monitor and evaluate staff; initiate and coordinate staff change and termination; establish staff requirements including administration, sales, maintenance, and housekeeping; recruit; interview; select; establish rates of remuneration and fringe benefits; design and implement staff upgrading and development.

PHYSICAL DISTRIBUTION

PHD 100 / Introduction to Physical Distribution

A survey course dealing with the actual movement of products from the producer to the customer. Areas involved include communication, order processing, inventory control, material handling, warehouses and warehousing, location analysis, protective packaging and traffic management.

PHD 102 / Physical Distribution Analysis

Managerial tools of analysis and decision making.

PHD 103 / Warehousing Management

Modern warehousing, functions, types: public, private; equipment costs, mechanization and automation, principles of merchandise location.

PHD 105 / Inventory Control I

Inventory goals, classifications, physical stock control, control techniques, when and how much to order.

PHD 202 / Physical Distribution Management I

Tools of analysis and decision making in the area of physical distribution, decision trees, PERT, CPM, transportation models, linear programming, forecasting, cost analysis techniques, computer applications.

PHD 203 / Transportation Management I

Different modes of transportation: air, sea, rail, truck, pipeline. Choices, cost estimates, rates, services. Documents.

PHD 205 / Physical Distribution Management II

Follows PDM I. Problem solving, applications, on-job case situations. Emphasis on integrated systems.

PHD 206 / Inventory Control II

Follows Inventory Control I. Emphasis on more sophisticated analytical, mathematical, and graphical control techniques and approaches.

PHD 207 / Traffic and Transportation Management II

Follows Traffic I. Further expansion and development of areas in Traffic I. On-job case situations.

PHYSICS

PHYS 100 / Applied Physics I

Semester I - Fluid mechanics; heat and thermometry; heat effects; heat measurement; changes of state; heat transfer.

Semester II - Thermodynamics; heat engines, refrigeration; sound; nature of light.

PHYS 100T / Applied Physics I

Fluids: properties of fluids, hydrostatics, hydraulics. Heat and thermometry: temperature scales, types of thermometers, absolute temperature, effects of heat; expansion of solids, liquids and gases; units of heat, specific heat, change of state, heat transfer, gas laws. Sound: measurement of sound, sonar effects, Doppler effect, acoustics. Light: nature of light, properties of light, optics, lenses, reflection, refraction, wave optics, speed of light, the electromagnetic spectrum, polarization.

PHYS 101 / Physics

System of units; heat; heat transfer; vibration and waves; light; ray optics; illumination; physical optics; colour; sound.

PHYS 104 / Applied Physics

This course if orientated toward the fundamentals of the food processing industry.

Semester I - Precision of measurement, matter, mechanics, heat, sound.

Semester II - Light, electricity, magnetism, electronics, atomic energy.

PHYS 105 / Applied Physics (Graphic Arts Related)

Heat, scales and quantities; expansions; specific heat; heat transfer; humidity; specific gravity and density; surface tension; gas laws; osmosis and diffusion; friction and viscosity; elasticity; light; optical instruments; reflection and refraction; photoelectrics; effect of infrared and ultra violet rays on fading surface and metallic colour; spectrum colours; colour mixing; luminosity and brightness; electrostatics and anti-static devices; flash point and safety devices.

PHYS 110 / Physics

Semester I - Heat and temperature, effects of heat, temperature, scales, heat units, specific heat, calorific value of fuels, elements, mixtures and compounds. Basic chemistry of combustion, chemical composition and combustion rates of fuels, transfer of heat.

Semester II - Fluid mechanics: fundamentals of electricity.

PHYS 121 / Applied Physics

Semester I - Heat and temperature; properties of matter; chemistry of combustion; heat transfer.

Semester II - Force, work, power, simple machines, laws of friction, fundamentals of electricity.

PHYS 130 / Applied Physics

Semester I - Types of forces, vector diagrams, simple machines, work, energy, power, hydraulics.

Semester II - Heat and temperature; fundamentals of electricity; Hooke's Law.

PHYS 132 / Applied Physics

Semester I - Properties of matter; hydrostatics; atmospheric pressure, gauge and absolute pressure, barometry, pressure at depth. Hydraulics: Pascal's Law, hydraulic devices, pneumatic devices.

Semester II - Heat and Thermometry: Gas laws; work, energy, power, machines; properties of light; nature of sound; properties of materials; forces.

PHYS 133 / Applied Physics

The atmosphere; nature of water; strength of materials; properties of heat, work, power energy, basic electricity.

PHYS 134 / Applied Science

Semester I - Measurement; density; heat and temperature; surface tension and viscosity; Elements of Electricity; light; simple machines.

Semester II - Properties of matter; physical and chemical changes, atomic theory, properties of acids, bases and salts, pH measurement; organic chemistry.

PHYS 135 / Applied Physics

Properties of matter; concept of force; hydraulics, pressure and density, hydraulic and pneumatic devices, electrical fundamentals, codes.

PHYS 136 / Applied Physics

Semester I - Heat and Temperature: effects of heat, temperature scales, heat units, specific heat, calorific values of fuels.

Semester II - Structure of Matter: element, mixtures and compounds. Basic chemistry of combustion, chemical composition of fuels, combination rates of fuels, transfer of heat.

PHYS 137 / Applied Physics

Semester I - Work, energy and power; simple machines, laws of friction, heat and temperature.

Semester II - Basic electrical fundamentals, Ohm's Law, electrical circuits, electromagnetism, thermocouples, transformers, generators, motors, capacitors and capacitance.

PHYS 138 / Applied Physics

Semester I - Classification and properties of matter; gas laws, properties of petrochemicals; solvents and refrigerants; properties of soaps and detergents; corrosion.

Semester II - Density; force, properties of solids; strength of materials; heat effects; hydraulic devices, simple machines.

PHYS 139 / Physics

Semester I - Language of science; measurement; density; heat and temperature; the atmosphere; light.

Semester II - Fundamentals of chemistry; mixtures and substances; atomic structure; acids and bases; chemical equations; pH; metallurgy; chemistry of photography and papermaking.

PHYS 200 / Modern Physics

Semester I - The spectrum; atomic physics, Bohr atom line spectra, waves and particles, atomic model, chroedinger wave equation, solid state physics, crystalline solids, classification by structure and by energy.

Semester II - Physical states; alloy structure; theory of semi-conductors; nuclear physics, relativity, nuclear particles, nuclear energy.

PHYS 201T / Modern Physics (Electronic Technology Related)

Heat; scales and quantities; expansions; specific heat; heat transfers; mechanical equivalent of heat; propogation of light; illumination and photometry; mirrors and lenses; photoelectrics; dispersion, interference and differation; sound waves; light and colour; infrared and ultra violet rays; radio waves.

PHYS 202 / Thermodynamics

Energy transformations; definition of terms, the PV diagram, laws of thermodynamics; the gas laws, Joule's equivalent.

Indicator diagrams; thermal efficiency, ideal engine cycles, engine efficiency, heat transfer, entropy; changes of state, isobaric, isochoric, isothermal, adiabatic, polytropic.

PHYS 210 / Applied Physics

Semester I - Principles of hydraulic and pneumatic devices and systems.

Semester II - Principles of electrical systems and operating principles of electrical devices. Fundamentals of computer analysis, codes and safety.

PHYS 202T / Modern Physics (Electronic Technology Related)

Velocity; acceleration; momentum; energy; gravitational, magnetic, and electric fields; radiation and planchis constant; atomic structure; electron spectra; Balmer's Law; Bohr's and Sommerfield Theory; DeBroglie equation; nucleus proton; neutron; atomic theory; Millkan measurement of Electron charge; nuclear stability; classification of particles; ionization; Geiger tubes; cloud chamber; X-Rays, diffractions, Compton effect; Electron Optics; reactors, radioactivity; fission; fusion; radiation; absorption; detectors; lasers.

PHYS 547 / Physics

Introductory Newtonian Mechanics; vectors, motion, force, equilibrium, friction, mechanical energy, mechanical advantage, and laboratory work. Prerequisite is SC 546.

PHYS 548 / Physics

Introductory Electricity; D.C. circuitry, elementary A.C. circuitry, application of electromagnetic induction, and laboratory work. Prerequisite is SC 546 or its equivalent.

PRECISION INSTRUMENT TECHNIQUES

PIT 100 / Horological Techniques

Care and use of small tools. Dressing up and sharpening screwdrivers and tweezers. Files and filing techniques. Filing projects. The watchmaker's lathe and motor. Basic operation. Tool sharpening and basic turning. Intermediate turning. Grinding and polishing. Burnishing. Use of various lathe attachments. Precision finishing of projects. Threading and taping. Introductory hairspring manipulations.

PLASTICS

PL 100 / Thermoplastic Materials

Fundamentals and characterization of polymers. Introduction to basic resins. Engineering thermoplastics and natural polymers. Identification of plastics and elastomers by simple tests.

PL 101 / Thermoplastic Materials

Fundamentals and characterization of polymers.

PL 102 / Materials Thermoplastics

Introduction to basic resins. Engineering thermoplastics and natural polymers. Identification of plastics and elastomers by simple test. Fluorine polymers. The new plastics. Reinforced thermoplastics and elastomers.

PL 103 / Thermoset Materials

History and introduction to polyester and epoxy resins. Reinforcements and fillers. Composites. Strength of material definitions.

PL 104 / Thermoset Materials

History and introduction to polyester and epoxy resins. Reinforcements and fillers.

PL 105 / Thermoset Materials

Composites. Strength of materials definitions. Properties, chemistry, curing and quality control for thermosetting resins. Polyester, epoxies, alkyds, phenolics, silicones, amino resins.

PL 110 / Thermoplastic Processes

Basic theory and application of thermoplastic processes. Mixing and dispersing, extrusion, injection moulding, calendering, blow moulding, sheet forming, sealing and welding, coating and machining.

PL 111 / Thermoplastic Techniques

Basic theory and application of thermoplastic processes. Mixing and dispersing, operation of extrusion, injection moulding, calendering and blow moulding equipment. Manufacturers' literature. Design of plastic parts and processing equipment, materials selection, selection of a process. Part design, injection mould design (plus Course DR 100 / Technical Drawing).

PL 112 / Thermoplastic Techniques

Practical machine moulding - extrusion, injection, blow moulding, tubular and cast film making, extrusion laminating, sheet production and filament extrusion. Design for tube extrusion and tubular film. Design for flat film and sheeting. Design for profiles. Design for blow moulding. Multi-screw extruders and miniature extruders. (Plus Course Dr 100 / Technical Drawing).

PL 113 / Thermoset Processes

Theory and application of reinforced thermosetting plastic processes. Pattern and mould making, hand lay-up, spray-up, filament winding.

PL 114 / Thermoset Techniques

Theory and application of reinforced thermosetting plastic processes. Pattern and mould making, hand lay-up practice. Design characteristics for glass fibre reinforced plastics. Throwaway and plaster tooling. (Plus Course DR 100 / Technical Drawing).

PL 115 / Thermoset Techniques

Spray-up and filament winding. Matched die, compression and transfer moulding. Injection moulding, reinforced plastics mould and tooling design. Wooden and metal moulds. Cost estimating. (Plus Course DR 100 / Technical Drawing).

PL 120 / Thermoplastic Design

Design of plastic parts and processing equipment. Materials selection, Selection of a process. Part design, injection mould design, extrusion die design, design of moulds for hollow formed articles, auxiliary equipment.

PL 123 / Thermoset Design

Design characteristics for glass fibre reinforced plastics. Throwaway and plastic tooling. Reinforced plastic moulds and tooling. Wooden and metal moulds. Cost estimating.

PL 125 / Plastics Fundamentals

Materials, processes, design, thermoplastics, and thermosets.

PL 200 / Thermoplastic Materials

Fluorine polymers. The new plastics. Reinforced thermoplastics and elastomers. Material testing. Product testing. Material selection.

PL 201 / Materials Thermoplastics

Material testing. Product testing. Material selection.

PL 203 / Thermoset Materials

Properties, chemistry, curing and quality control for thermosetting resins. Polyesters, epoxies, alkyds, phenolics, silicones, amino resins, furanes and polyurethanes.

PL 204 / Materials Thermosets

Furanes and polyurethanes.

PL 210 / Thermoplastic Processes

Advanced theory and application of thermoplastic processes. This course covers the same processes as listed in PL 110 /, but in greater depth.

PL 211 / Thermoset Processes

Theory and application of moulding thermoset materials. Matched die moulding, compression, transfer, and injection moulding.

PL 212 / Techniques Thermoset

Theory and application of cellular plastic moulding and casting. Materials and designs for flexible moulds.

PL 220 / Thermoplastic Design

Advanced design-process selection, mould and die design, product design. Auxiliary equipment, jig and fixture design. Cost estimating.

PL 223 / Thermoset Design

Mould and die design, machine design. Cost estimating.

PL 316 / Plastic Thermosets

Theory and application of thermosetting materials and processes: hand lay-up spray-up, filament winding, foam dispensing and compressing moulding. Forming and fabricating of thermoplastic sheets, rods and tubes. Design considerations - product and mould. Mould making materials.

PL 317 / Plastic Thermoplastics

Theory and application of thermoplastic materials and processes: extrusion, injection moulding, blow moulding and calendering. Design of thermoplastic parts and processing equipment. Material properties and selection.

PRECISION MEASUREMENT

PM 100 / Precision Measurement

Dial gages and indicators, surface plates, micrometers and verniers, gage blocks, optical comparator. Angular measurement, checking threads. Co-ordinate measurement machine, basic tools - telescope gages, small hole gages, steel rule, vernier protractor, height gages, squares, inside micrometer, depth micrometer, sine bar.

PM 110 / Precision Measurement

History and basic principles: basic instrumentation, dial gauges and test indicators, surface plates, micrometers and verniers, gauge blocks, optical instruments and testing. Surface finish screw threads, gears. Angular measurement, fixed gauges, air gauging, autometrology. Co-ordinate measurement.

FOOD TECHNOLOGY

PROP 111 / Amenity and Common Area Management

Organize and implement program of safety and security; control use of parking (in and out); control use of lobbies and entrances; control use of laundry rooms, lockers; control use of elevators and stairwells; schedule use of amenities; liase with local recreational authorities; establish recreational programs and schedules; maximize use of facilities; maintain equipment in good working order; establish a monitoring program for leased facilities; establish and maintain pool maintenance program; maintain a program of required hygenic standards; interpret and apply legislation covering Class B pools.

PROSTHETICS

PROS 101 / Materials and Shop Techniques

A practical study of the hand and machine fabrication of components from ferrous and non-ferrous metals, plastics, leather, fabrics and plaster; reinforcing materials, hand lay-up procedures, vacuum laminations; fastening, polishing and buffing of plastics; machine sewing, manufacture of plaster moulds and models, including use of plaster bandages, as well as types and applications of adhesives and other fastening devices.

PROS 200 / Orthotic and Prosthetic Techniques

Casting, moulding, modifications, laminations, fabrication, installation of hardware and jigs in preparation for use by patients, including prosthesis and orthosis for upper and lower extremity deficiencies.

PROS 203 / Field Practice

Participation in various clinics, amputees assessment, formulating prescriptions, working with other members of the rehabilitation team. Visits to recognized establishments and working in a practical environment.

PROS 300 / Advanced Orthotic and Prosthetic Techniques

Modular prosthetics, fracture casting, immediate post-operative fitting techniques. Advanced prosthetic/orthotic casting and modification procedures. Fitting problems, and new materials as they are introduced.

PROSTHETICS (cont'd)

PROS 301 / Physical and Occupational Therapy (1st Semester only)

Patient treatment with considerations given to levels of activity, age, occupation and eventual rehabilitation into society.

PROS 302 / Research Project

The project will enable the student to apply his theoretical knowledge and practical ability to the design, fabrication, testing and acceptance of prosthetic/orthotic components to meet the requirements and standards of the profession.

PROS 303 / Field Service

Involvement with patients for the actual fitting, design and fabrication from prescription with consideration given to clinical assessment, in conjunction with certified member of prosthetic/orthotic profession.

NURSING

P.S.I. 401 / Problem-Solving

The development of investigative skills.

PSYCHOLOGY

PSY 160 / General Psychology

A study of human motivation, perception, and learning processes; theories of personality development, nature of intelligence and psychological testing; meaning of elementary statistical terminology related to the study of children.

PSY 161 / General Psychology

This course will examine the basic concepts and theories of psychology, covering such topics as learning, motivation, individual differences, etc. These concepts will then be applied to practical issues in business and personal life, helping the student to understand himself and others.

PSY 162 / Social Psychology

This course, offered to students who have completed and introductory course in psychology, will examine the basic principles of social psychology, such as group dynamics, group behaviour, organizations, etc. These principles will be applied to issues in modern society and industry.

PSY 200 / Psychology

A general introductory course to the study of human behaviour with consideration given to human motivation, perception, and the learning process. Theories of personality development, the concept of roles and the nature of intelligence will be discussed.

PSY 201 / Business Psychology

Formal and informal organizations. Consumer motivation. Consumer analysis, depth interviews, attitude and opinion surveys. Theory of psycho persuasion.

PSY 202 / Psychology

Clinical approach to the new amputee. Basic understanding of some of his problems and how to deal with them. Environment and family acceptance of amputees.

PSY 203 / Rehabilitation

Introduction to social and vocational rehabilitation. Social roles of the disabled; processes of vocational rehabilitation. Functions of an Amputee Clinic between medical and vocational rehabilitation. Sources of funds available to purchase appliances: one's own resources, government programs and voluntary agencies. Training, role, function, etc. of welfare (social work) personnel involved in vocational rehabilitation.

PSY 204 / Industrial Psychology and Salesmanship

A study of the application of psychological methods and principles in business and industry. Personnel selection, factors involving efficiency. Factors in selling process: buying habits, motives. The pre-approach, the approach, the presentation, the close.

PSY 205 / Applied Psychology

As related to patient management. Procedures involving children and adults in the reception area, operatory, and business office.

FOOD TECHNOLOGY

REL 111/211 / Resident Relations

Uphold company policy; avoid personal relationship with residents; Deal impartially with residents; communicate with residents; able to educate owners to their responsibility; make resident understand terms of tenancy agreement; advise resident of responsibilities on giving notice; diplomatically deal with lease infractions; deal effectively with pets and children; deal with non-acceptables' life styles; maintain resident discipline; maintain acceptable community environment; carry out eviction procedure; co-ordinate suite turnover; complete incoming and outgoing inspection reports; work within scope of condominium document to protect owners investment; advise Board of Directors of Condominiums; take direction from Board of Directors; liase with Landlord and Tenant Advisory Bureau; mediate resident-to-resident relations

FASHION TECHNOLOGY

RSCH 300 / Research

Apparel Design Students Research and Survey Projects.

Semester I

RSCH 351 / Research

Apparel Design Students Research and Survey Projects.

Semester II.

SAN 100 / Sanitation and Hygiene

Cause and prevention of food-borne illnesses. Sanitary maintenance of all areas of food service establishments. The student is instructed in the proper handling of food, beverages, equipment, and other materials in storage. Sanitation through proper dishwashing equipment.

SAN 300 / Sanitation and Pollution

Organization and supervision of a sanitation program in the food industry. Importance of and how to schedule a program. The chemistry of cleaning, detergency and types of cleaning compounds. Methods of disinfection and sterilization, mechanical and/or chemical cleaning methods, CIP and ultrasonic methods. Sanitary aspects of buildings and equipment, water treatment, and supply. Waste treatment and disposal. Insects, rodents, etc. and their control. Inspection techniques and reporting.

SMALL BUSINESS MANAGEMENT

SBM 132 / Small Business Management

Business Mathematics; Basic Bookkeeping: Journals, ledgers, financial statements, entries, special journals. Business organization; business law; sales and advertising.

SBM 142 / Small Business Management

Small business management for Jewellers.

SCIENCE

SCI 546 / Science

Introduction to science including measurement, sound and light, mechanics, magnetism, electricity and heat, biology and chemistry.

SCI 547 /

This course consists of 4 modules, each of two months duration. Students are required to complete any four of BIO 547, BIO 548, CHEM 547, CHEM 548, PHYS 547, and PHYS 548. Not all modules are offered at any one time.

FOOD TECHNOLOGY

SEC 111/112 / Security and Safety

Maintain key control system; maintain security over cash on hand; take precautionary measures to preclude vandalism; recognize indications of absence of residents; educate residents to good security practices; maintain good rapport with local law enforcement agency; exercise judgment in the dissemination of confidential resident information; protect privacy of residents; identify and correct hazardous situations; supervise coin-operated vending machines; control, maintain and check security devices; control trespassers; instruct staff to look for and report breaches of security; deal effectively with emergencies; establish security precautions regarding company property of suite turnover;

SEC 111/112 / Security and Safety (cont'd)

establish fire procedures; establish security control on removable assets; establish policy on delivery of goods for residents' services (mail); develop procedures for evacuation of elevators; investigate and advise on major breaches of security; advise owners on various methods of security.

SEWING

SEW 141/151/541 / Sewing Machine Operation

Single-needle lockstitch flat-bed machine - 240 hour Performance Objective Program leading to speed, stamina, rhythm in sewing on professional machine - use of steam iron on trolley (120 hours First Semester).

SEW 142/542 / Serger Machine

Special module (30 hour) for students reaching SEW 141/151 objectives in less than 240 hours. Also available for part-time students during regular classes.

SEW 143/543 Blind-stitch Machine

Special module (30 hours) as for SEW 142.

SEW 144/544 / Button-hole and button-sew machines (30 hours)

SEW 145 /

SEW 141 with addition of methods, time and motion studies.

SEW 151/557 /

As SEW 151 - Final 120 hours of Performance Objective Program for part-time students during regular classes.

SEW 155 /

SEW 141 - Continuation of methods, time and motion studies, standard data - special consideration of work methods, placement of piles, etc.

SEW 161 / Operator Training Piece Work/Time Work

Operator orientation - incentives - motivation - recruiting - vestibule operations.

SEW 241 /

AS DRES 248 for factory supplies, threads, equipment, accessories, justification of purchases.

SEW 242 /

Special operations using sewing machines - special attachments for specific objectives.

SEW 244 /

Cutting fabric for easiest sewing - markers, layout, notching, ticketing, ironing, etc.

SEW 245 /

Methods and time studies on sewing machine operators.

SEW 246 /

Study of standard data.

SEW 252 / Special Sewing Machines

Numerical controlled machines - customized, etc.

SEW 551 /

SEW 541 - Advanced - Semester II.

SHORTHAND

SH 100 /

In this semester the theory of the system is thoroughly covered and a good foundation is laid for the development of speed in the following semesters.

SH 101 /

This semester is mainly devoted to developing the technique of taking dictation at speeds of up to 100 wpm and transcribing it in mailable form.

SH 200 and 201 /

These two semesters continue developing the ability to write shorthand at increasing speeds, up to 130 wpm and transcribing the material in mailable form.

SH 202 and 203 / Secretarial Science Legal

Particular emphasis is placed on developing the ability of the writer to handle the kind of terminology that is likely to be encountered in a legal office, at an acceptable writing speed.

SH 204 and 205 / Secretarial Science Medical

Particular emphasis is placed on developing the ability of the writer to handle the kind of terminology that is likely to be encountered in the medical profession, at an acceptable writing speed.

SH 302 and 303 / Shorthand and Transcription

As well as developing the ability of the student to write shorthand at speeds of up to 200 wpm, time is also devoted to single and multi-voice dictation as is likely to be encountered in the courtroom, conference room or in parliamentary debate.

SIGN 530 / Basic Signwriting

The fundamentals of signwriting and the basic operations which the student must be able to perform will be covered, such as: materials and their uses, tools and maintenance; a few basic type faces will be used to practice brush lettering.

SIGN 531 / Basic Show Card Writing and Pen Lettering

The student will become familiar with the materials, the tools and their maintenance used in show card writing. A few type faces particular to show card writing will be practiced with show card brushes and pens.

SIGN 532 / Introduction to Layout and Colour

Spacing and basic layout, type faces and their construction and applications will be studied. There will be some required preparatory reading to introduce colour theory.

SIGN 533 / Signwriting

Various materials will be prepared and lettered on. Scaled drawings and hand drawn patterns will be made; signs will be produced for various purposes.

SIGN 534 / Show Card Writing and Pen Lettering

A wide variety of show cards and paper banners will be lettered using decorations such as borders, shades and panels.

SIGN 535 / Design and Layout

The student will study the arrangement of graphic elements in a given area; study the relationship between these elements and the area. This involves proportion, rhythm, harmony, unity, emphasis, balance. Students will practice this by designing layouts for the various projects.

SIGN 536 / Colour

The correct and imaginative use of colour is based on experimentation and knowledge. The students will combine colour theory and colour practice to create good colour schemes for the various projects.

SIGN 537 / Screen Process Printing (for the sign and show card industry)

Screen printing for the sign shop will be studied. Materials, tools and their uses to produce hand cut stencils, make screens and print will be covered.

SIGN 538/539 / Gold Leaf and Plastic Signs

The student will be introduced to gold leafing and plastic signs.

SP 526 / Basic Principles of Layout, Design and Typography

This course covers the designing and laying out of ideas for posters and other points of purchase advertising. It includes the study and use of several basic type styles and their compatability with one another in advertising material.

SP 527 / Photomechanical Reproduction (Line, Basic Process Colour Reproduction)

Covers the making of negatives and positives using a process camera and other photographic equipment. It includes black and white line work and the reproducing of photographs as relates to the screen printing process. Also covered in this segment is mechanical colour separation and basic process colour reproduction.

SP 528 / Film Imposition, Stencil Cutting and Screen Preparation

The laying down of film positives in a poster layout is referred to as film imposition or stripping. From this composite film a photographic screen is made. In addition to this, the student is trained to make knife cut stencils and hand cut positives on ruby film. Also included is the study of screen-making fabrics such as silk, nylon and polyester; the care and treatment of these fabrics and their use in making transfer film and Direct Image Photographic Screens.

SP 529/530 / Manual and Mechanized Screen Printing Paper and Board

(Other substrates such as plastics, glass, wood, metal, cloth, self adhesive films)

SOCIOLOGY

SOC 100 / Sociology

This is an introductory course covering the main contemporary issues in North American Societies. Topics such as the Family, Conformity, Modern Institutions and Work are discussed. There is an emphasis placed on comparing contemporary society with primitive and animal social instincts.

SOCIAL PSYCHOLOGY

SOC PSY 100 / Social Psychology

A general introductory course covering the concept of "the group", with consideration given to ethnic relations, national character, personality, values and drives, the job and the self, peculiary philosphy, the personal community, cultural ills and human obsolescence.

NURSING

S.O.R. 401 / Safe Practice

Safe Practices in the operating room theatre.

STRUCTURAL STEEL

STR 122 / Structural Detailing

The preparation of design and detail drawings of standard structural steel reinforced concrete and timer construction.

STR 123 / Structural Design

Reinforced concrete design; foundations and retaining walls; structural steel design; structural members and frames; detail parts and connections.

STR 212 / Structural Steel Problems and Drawing

Drafting office routines, shop practice, detailing and related design of the components of steel construction.

STR 213 / Reinforced Concrete Problems and Drawing

Drafting office routines, shop practice, detailing and related design of the components of reinforced concrete construction.

STR 214 / Project Drawing

Project drawing from design sketches; specifications and standards to develop complete sets of design; detail and structural drawings.

SURVEYING

SURV 100 / Survey Computations and Drafting

Introduction to elements of surveying and survey drawing, Ontario land system, survey calculations, interpretation of legal boundary notes.

SURV 100T / Survey Computations and Drafting

Introduction to elements of surveying and survey drawing, Ontario land systems, survey calculations and interpretation of legal boundary notes.

SURV 101 / Plane Surveying

Fundamental principles of surveying and the use of survey instruments and equipment, field procedures for topographical surveying and basic construction layout.

SURV 101T / Plane Surveying

Fundamental principles of surveying and the use of survey instruments and equipment, field procedures for topographical surveying and basic construction layout.

SURV 110 / Surveying

A basic course in the fundamentals of plane surveying, utilizing the various survey instruments and equipment.

SURV 200 / Survey Computations and Drafting

Survey plans and calculations for land exchange, easement, expropriations, route locations and earthwork quantities.

SURVEYING (cont'd)

SURV 201 / Advanced Plane Surveying

The field work and equipment required to produce good quality 3rd order control over a large area, using geodetic co-ordinates; the adjustment and computation of the results by regular methods and by computer; the drafting of the final plan.

SURV 201T / Advanced Plane Surveying

The field work and equipment required to produce a good quality 3rd order, control over a large area using geodetic co-ordinates; the adjustment and computation of the results by regular methods and by computer; the drafting of the final plan.

SURV 202 / Photogrammetry

Theory and photogrammetric mapping, use of aerial photographs in surveying, mapping procedures.

SURV 203 / Practical Astronomy

Polaris observation for meridian, determination by astronomic observation of longitude, time latitude, sun observation, use of tables, calculation procedures.

SURV 204 / Legal Surveying

History and development of land registration system, methods of registering, legal transfers and general procedures, field trips to registry, land titles, and township offices.

SURV 300T / Cartography

The compelation of all survey information for the preparation of producing the printed map on the various media.

SURV 301T / Advanced Plane Surveying

Special problems encountered in field and equipment pertaining to geodetic and urban control surveys. Utilizing conventional and electro equipment.

SURV 302T / Photogrammetry

The production of plans and maps using air-photo equipment.

SURV 303T / Practical Astronomy

Calculating of latitude, time, longitude from stellar. Observations. Accurate calculation of bearings, transformation and relationship of co-ordinate systems, bearing reference and convergence.

SURV 304T / Legal Surveying

The various types of official surveys in Ontario under the Survey Act, common law principles pertaining to boundaries and surveys.

TOOL DESIGN

TD 110 / Metrology

History and basic principles: basic instrumentation dial gauges and test indicators, surface plates, micrometers and verniers, gauge blocks, optical instruments and testing, surface finish screw threads, gears, angular measurement, fixed gauges, air gauging autometrology.

WATCHMAKING

WACH 130 / Theory of Watchmaking

History of timekeeping instruments; celestial basis for time measuring; time zones. Units of linear measurements and measuring instruments. Basic principles of turning, filing, grinding and polishing, and burnishing.

WACH 131 / Watchmaking Skills

Care and use of basic tools. Screw plate exercises. Basic turning exercises. Files and filing techniques. Turning in brass and steel. Making balance staffs.

WACH 132 / Theory of Watchmaking

Balance wheels and balance staffs, truing and poising, removing broken staffs. Watch hairsprings. History of collecting, truing and vibrating principles. Introductory hairspring theory, principles of isochronism, flat and overcoil hairsprings. Clock escapements. Pendulums.

WACH 133 / Watchmaking Skills

Staking and removing balance staffs. Basic hairspring manipulations. Coleting, truing, vibrating and overcoiling techniques. Clock repairing. Trouble shooting and various aspects of servicing alarm, mantel and wall clocks.

WACH 231 / Watchmaking Skills

Advanced turning operations, alterations and fitting of parts. Jewelling: bezel type and friction type. Escapement matching. Hairspring manipulations. Collecting, truing, vibrating and overcoiling of watch hairsprings.

WACH 232 / Theory of Watchmaking

Gearing theory and calculations. Theory of watch construction. Watch timing and adjusting. Automatic winding mechanisms. Calendar mechanisms. Other types of watch escapements. Waterproofing.

WACH 233 / Watchmaking Skills

WACH 233 / Watchmaking Skills

Fittings of stems and crowns, round and fancy crystals. Replacing mainsprings. Watch overhaul and lubrication. Adjusting manipulations; adjustments to positions, adjustments to isochronism, adjustments to mean time. Practical testing and waterproofing.

WACH 330 / Theory of Watchmaking

Principles of precision adjustments of chronometres. Detent escapements. Helical balance springs. Complete phase calendar mechanisms. Perpetual calendar watches.

WACH 331 / Watchmaking Skills

General overhauling techniques. Precision watch timing and adjusting. Overhauling of perpetual calendar and other types of complicated watches.

WACH 331 / Watchmaking Skills

General overhauling techniques. Precision watch timing and adjusting. Overhauling of perpetual calendar and other types of complicated watches.

WACH 332 / Theory of Watchmaking

Chronograph watches: principles of operation, types, adjustments, types of dials. Automatic-chronographs and calendar watches. Principles of operation and adjustment. Electric and electronic watches: with balance wheels, with tuning forks, with quartz crystal oscillators.

WACH 333 / Watchmaking Skills

Overhauling and adjustments of various types of chronographs and automatic-chronograph watches. Servicing of all types of electric and electronic watches.

WACH 335 / Applied Electronics

Dichotomy of electronic watches; Electron theory; Ohm's law; Colour code; Series and parallel resistors; Batteries; Magnetism; Electromagnetism; Capacitance; L-C circuits; Quartz crystals; Diodes, Transistors; F.E.T's Liquid crystal circuits as used in watch design; modules and I.C. circuits.

WEAVING

WEAV 101 / Elementary Weaving

Small hand looms - basic.

WEAV 151 / Elementary Weaving

Continuation of WEAV 101.

WEAV 201 / Advanced Weaving

Large hand looms - Projects.

WEAV 251 / Advanced Weaving

Continuation of WEAV 201.

WELD 100 / Manual Welding Processes

Further study of oxy-acetylene and manual metallic arc processes and their application to the welding of sheet, plate, pipe and structural sections. Welding techniques as applied to a variety of metals and joint configurations. Weld inspection and testing.

WELD 101 / Gas Tungsten Arc Welding

Description, characteristics, and application of G.T.A. welding and auxiliary equipment and supplies. Preparation procedures and welding techniques as applied to various metals. Joint Design. Purging procedures. Operational difficulties and their solutions.

WELD 102 / Semi-automatic and Automatic Welding Processes

Theory and operation of semi-automatic and automatic versions of metal inert gas welding, CO_2 short circuiting, CO_2 flex cored wire, open arc, submerged arc, electroslag, plasma arc, resistance and stud welding processes. Study of equipment requirements and operational trouble shooting. Selection of filler wires and shielding gases. Welding procedures and weld testing.

WELD 103 / Industrial Welding Applications and Shop Procedures

Fabrication procedures involving the use of various types of welding and metalworking equipment. Application of manual, semi-automatic, and automatic welding equipment to production. Process and equipment selection. Quality control and codes. Estimating- shop and production planning. Use of weld inspection equipment to perform destructive and non-destructive tests. Supervision.

WELD 147 / Welding

Safety precautions, handling and using oxy-acetylene equipment, welding terminology, assembly and disassembly of equipment, flame adjustment, definitions of various oxy-acetylene processes, basic weld joints, fusion welding various metals, theory of oxy-acetylene cutting, brazing and braze welding, soldering methods: equipment and materials, general procedures, torch soldering, soldering copper method and electric soldering iron and gun.

WELD 148 / Welding

History of welding; basic fundamentals of such welding processes as oxy-fuel gas, manual metallic arc, gas tungsten arc, gas metal arc, submerged arc, electro-slag, plasma arc, electron beam and resistance welding; weldability of metals; industrial applications of welding processes; joint and metal preparation; distortion and stress principles of oxy-fuel gas cutting; weld faults in relation to poor design. Demonstrations (with some student practice) of oxy-acetylene, manual metallic arc, gas tungsten arc, gas metal arc, arc air gouging, submerged arc and resistance welding.

WELD 149 / Oxy-Acetylene Welding, Brazing and Cutting

Theory: safety precautions, terminology. Assembly and disassembly of equipment, care of equipment. Types of flames and their uses. Joint design. Weld faults. Repair of casting, handling of oxygen and acetylene. Testing of welds and operators. Practice: Fusion welding and braze welding. Cutting with manual and semi-automatic equipment.

* denotes an Ontario Manpower Retraining Program (OMRP)

\# denotes an apprenticeship program

Answers to inquiries may be obtained by dialling (416) 967-1212 and asking for "Information".

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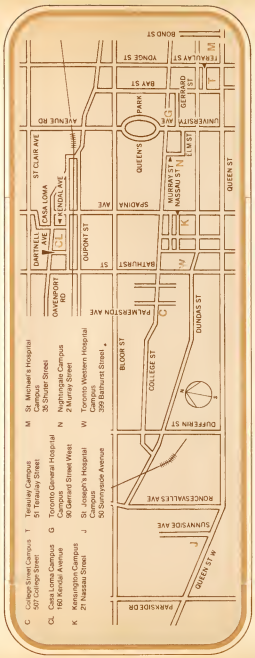

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